



# RECREATION AREA MANAGEMENT PLAN and ENVIRONMENTAL ASSESSMENT for the

**IMPERIAL  
SAND  
DUNES**

**DRAFT**

**October 1986**



Department of the Interior  
BUREAU OF LAND MANAGEMENT  
El Centro Resource Area, California





## United States Department of the Interior

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BUREAU OF LAND MANAGEMENT  
California Desert District  
1695 Spruce Street  
Riverside, California 92507

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Dear Reader:

Enclosed is the Draft Imperial Sand Dunes Recreation Area Management Plan (RAMP) and Environmental Assessment. This is a comprehensive and detailed management plan for the most popular recreational area in the California Desert. Developed within the guiding framework of the Desert Plan, the Imperial Sand Dunes RAMP provides specific direction for resolving many of the compelling issues and problems currently facing the dunes. It also formulates a strategy for meeting the challenge of the 1990s.

Some of you participated in the Imperial Dunes planning workshops held in May 1985, and later provided additional input through a planning workbook. If you did, you will probably recognize some of your ideas in this draft. Now you have an opportunity to review the draft plan and environmental assessment and to provide us with constructive suggestions for developing the best possible final plan.

Comments should be sent to Roger Zortman, Area Manager, El Centro Resource Area, 333 South Waterman Avenue, El Centro, California 92243, no later than December 22, 1986. Specific questions regarding the plan should be directed to Roger or Lead Outdoor Recreation Planner Steve Nelson at (619) 352-5842.

Sincerely,

Gerald E. Hillier  
District Manager

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RECREATION AREA  
MANAGEMENT PLAN

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SECTION 1 -  
Recreation Area Management Plan

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SECTION 2 -  
Environmental Assessment

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SECTION 3 -  
Appendices

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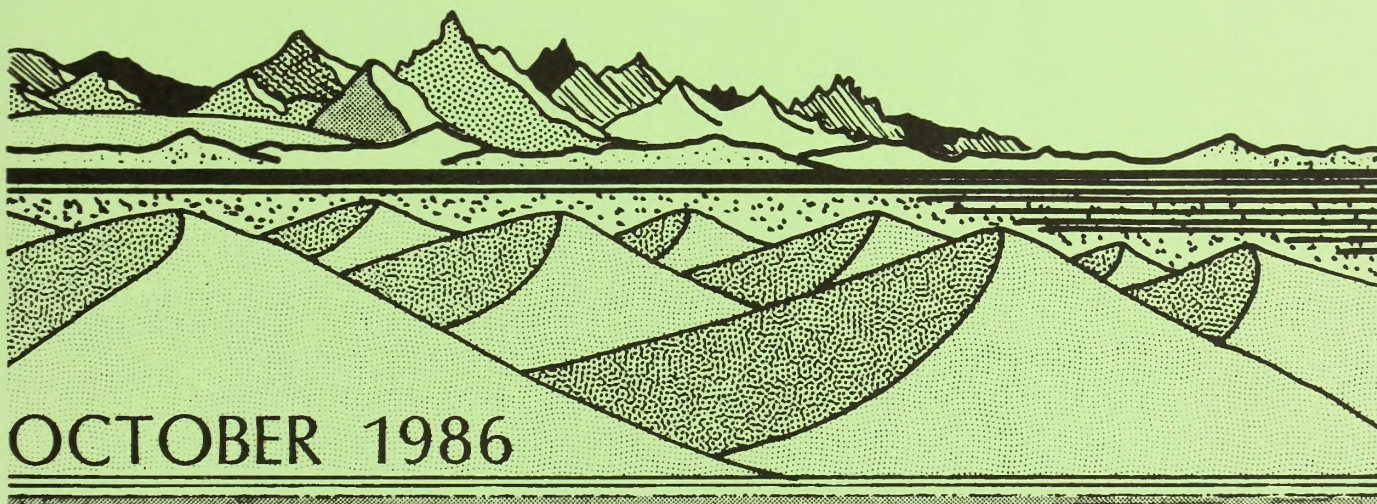
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IMPERIAL  
SAND  
DUNES

**DRAFT**



OCTOBER 1986



Department of the Interior  
BUREAU OF LAND MANAGEMENT  
El Centro Resource Area, California



# Imperial Sand Dunes

## RECREATION AREA MANAGEMENT PLAN

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U.S. Department of the Interior  
Bureau of Land Management  
California Desert District  
El Centro Resource Area

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# PART I

## Introduction



## Part I - Introduction

### A. Location and Setting

The Imperial Sand Dunes, sometimes called the Algodones Dunes, are the largest mass of sand dunes in California. This dune system extends for more than 40 miles along the eastern edge of the Imperial Valley agricultural region in a band averaging five miles in width (see Map 1 for regional location).

Rising to heights of over 300 feet above the surrounding desert floor, the dunes are a well-known landmark to local residents and the thousands of highway travelers who pass through them every year. While summer temperatures often rise to over 110° F and annual rainfall averages less than two inches, the mild climate between October and May attracts tens of thousands of off-highway vehicle (OHV) enthusiasts to the area.

Major place names and landmarks within the recreation area are shown on Map 2. The dune system is traversed by two major east-west highways, near which recreational use has traditionally been concentrated. In the north, State Highway 78 crosses at the small settlement of Glamis. Highway 78 connects Brawley (29 miles west of Glamis) with Blythe (60 miles northeast of Glamis). At the south end of the recreation area, Interstate Highway 8 crosses the dunes at Buttercup Valley. Interstate 8 provides access from El Centro (40 miles west of Buttercup) and Yuma, Arizona (20 miles east). These highways also provide access from the major urban centers of Los Angeles, San Diego, Phoenix, and Tucson, all of which are within a day's drive of the recreation area.

Generally, the west boundary of the recreation area follows the abandoned Old Coachella Canal, while the east boundary follows the Southern Pacific Railroad. Exceptions have been made in order to include adjacent lands on which recreational use patterns are heavily influenced by the sand dunes.

### B. Previous Planning

#### 1. 1972 Imperial Sand Hills Management Plan

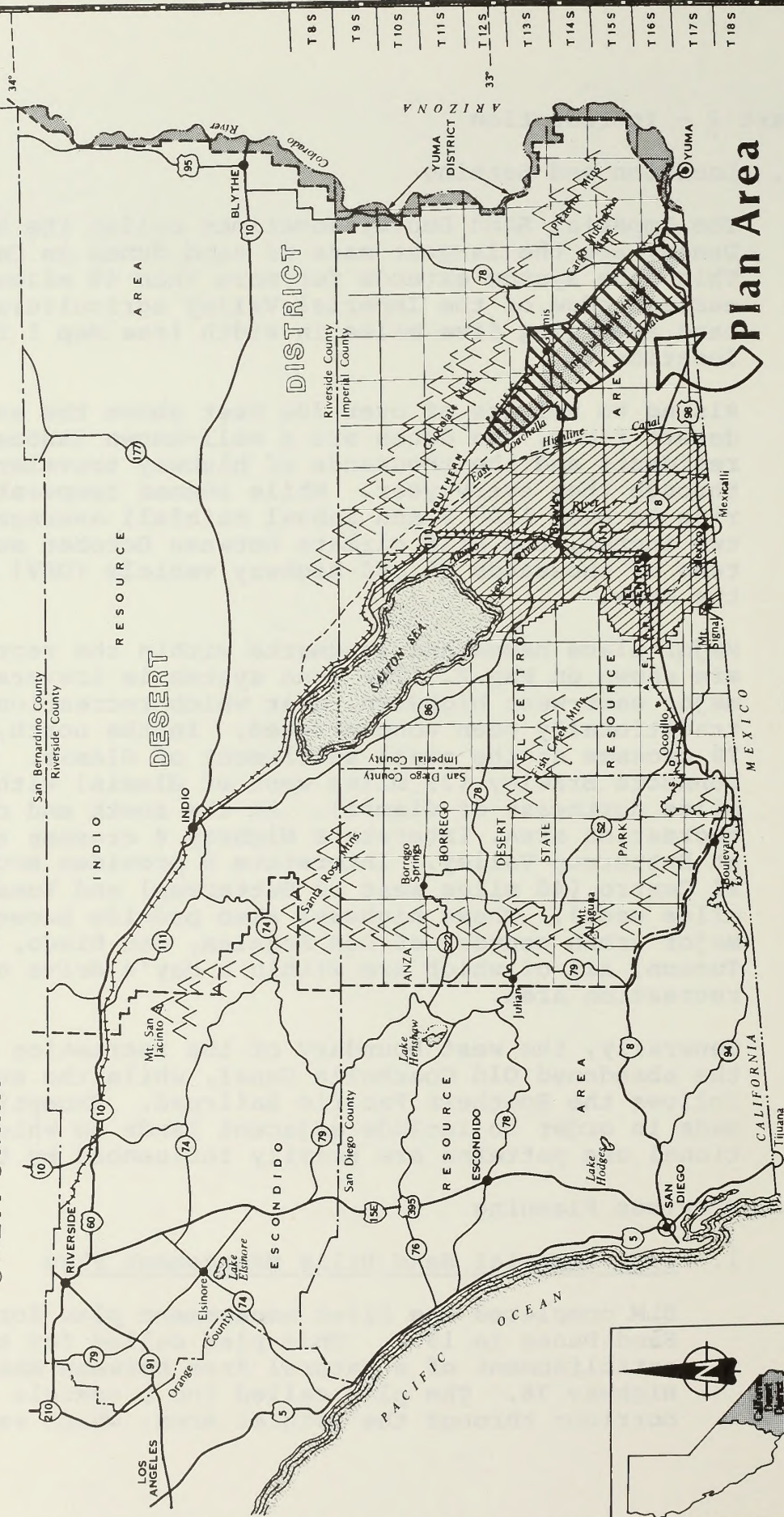
BLM completed the first management plan for the Imperial Sand Dunes in 1972. This plan called for the establishment of a Natural Area between Mammoth Wash and Highway 78. The plan called for a vehicle access corridor through the Natural Area, which was otherwise

# MAP 1

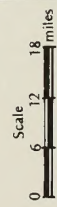
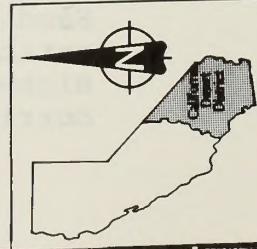
## IMPERIAL SAND DUNES

### EL CENTRO RESOURCE AREA

## REGIONAL VICINITY



Plan Area



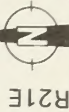
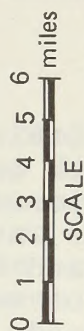
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## Map 2 Planning Area

## LEGEND

## PLANNING AREA

WILDERNESS  
STUDY AREA  
(WSA)



closed to OHV use (this corridor was closed in 1977 due to impacts to plants and wildlife from OHV play activity). It proposed to direct recreational use away from Highway 78 and Interstate Highway 8 by constructing a paved Imperial Sand Dunes Scenic Road along the west side of the dunes between Highway 78 and Gordons Well. Six public campgrounds were to be built along the proposed road. In addition, four primitive campgrounds were proposed, one at Mammoth Wash and three along the west side of the dunes between Glamis and Ogilby. Buttercup Valley was to be managed as a "day-use only" area. The Cahuilla Ranger Station was to be built at the north end of the scenic road near Highway 78. The Sand Hills Visitor Center and Administrative Site was to be built near Gordons Well. A permanent and seasonal staff of 44 employees was ultimately envisioned to operate and maintain the recreation area.

Due to a combination of budgetary and environmental factors, only a portion of the 1972 plan was implemented. The Algodones Natural Area was established north of Highway 78, and 5.3 miles of the Sand Dunes Road ("Gecko Road") were constructed south of Highway 78. The Cahuilla Ranger Station and Gecko Campground were constructed along the new road. In 1977, plant studies revealed the presence of a number of sensitive species in the central dunes along the proposed Sand Dunes Road alignment. In order to protect the habitat of the sensitive plants, BLM decided not to extend the road beyond its terminus at the site of Roadrunner Campground.

## 2. 1980 California Desert Plan

The California Desert Plan, completed in 1980, is a comprehensive general management plan for the California Desert. This plan included a number of decisions important to the Imperial Sand Dunes Recreation Area.

During preparation of the Desert Plan, BLM conducted an inventory of lands possessing the wilderness characteristics described in the Wilderness Act of 1964. As a result of the inventory, two areas having wilderness characteristics were identified and established as wilderness study areas (WSAs). WSA 360, North Algodones Dunes, corresponds closely to the Algodones Natural Area. WSA 362, South Algodones Dunes, encompasses a large portion of the central dunes between Highway 78 and Interstate 8 (see Map 2). These WSAs must be managed to prevent impairment of their wilderness suitability until Congress decides whether or not they will be actually designated as wilderness.

The Desert Plan also assigned "Multiple-Use Classes" to the recreation area (see Map 3). These classes are similar to zones used by county and city governments. The classes are based on resource sensitivity and types of uses in the area. The acreage of each class in the recreation area is presented in Table 1.

Class C indicates areas which BLM has "preliminarily recommended" as suitable for wilderness designation by Congress. The portion of WSA 360 corresponding to the Algodones Natural Area became Class C. The recommendation is preliminary because it is subject to further review by the Secretary of the Interior and the President, and because a mineral report for the WSA is still in preparation. A final recommendation to Congress from the President is expected about 1990.

Class L (Limited Use) protects sensitive natural, scenic, ecological, and cultural resource values. The Desert Plan assigned much of the central dunes and Pilot Knob Mesa to this class, in order to protect sensitive plant and wildlife habitat. East Mesa north of Highway 78 was also placed in Class L. This class is suitable for recreation which generally involves low to moderate user densities. Developed campgrounds or sites involving concentrated recreational use are generally not allowed in this class.

Class M (Moderate Use) provides for a balance between higher intensity use and protection of public lands. Recreational use is appropriate at moderate to high densities, and developed recreation sites are permitted. East Mesa south of Highway 78, the area east of Glamis, and South Ogilby Dunes were placed in Class M.

Class I (Intensive Use) provides for concentrated use of lands and resources to meet human needs. Recreation activities involving high densities are permitted. Areas of the dunes assigned to Class I include the intensively-used OHV play areas around Mammoth Wash, Glamis, and Buttercup Valley. The management objective of these areas is to enhance opportunities for OHV recreation. Campgrounds and other facilities are permitted.

# IMPERIAL SAND DUNES RECREATION AREA

## MAP 3 Multiple-Use Classes

### LEGEND

— PLANNING AREA

- - - WILDERNESS

STUDY AREA (WSA)

CLASS I

CLASS M

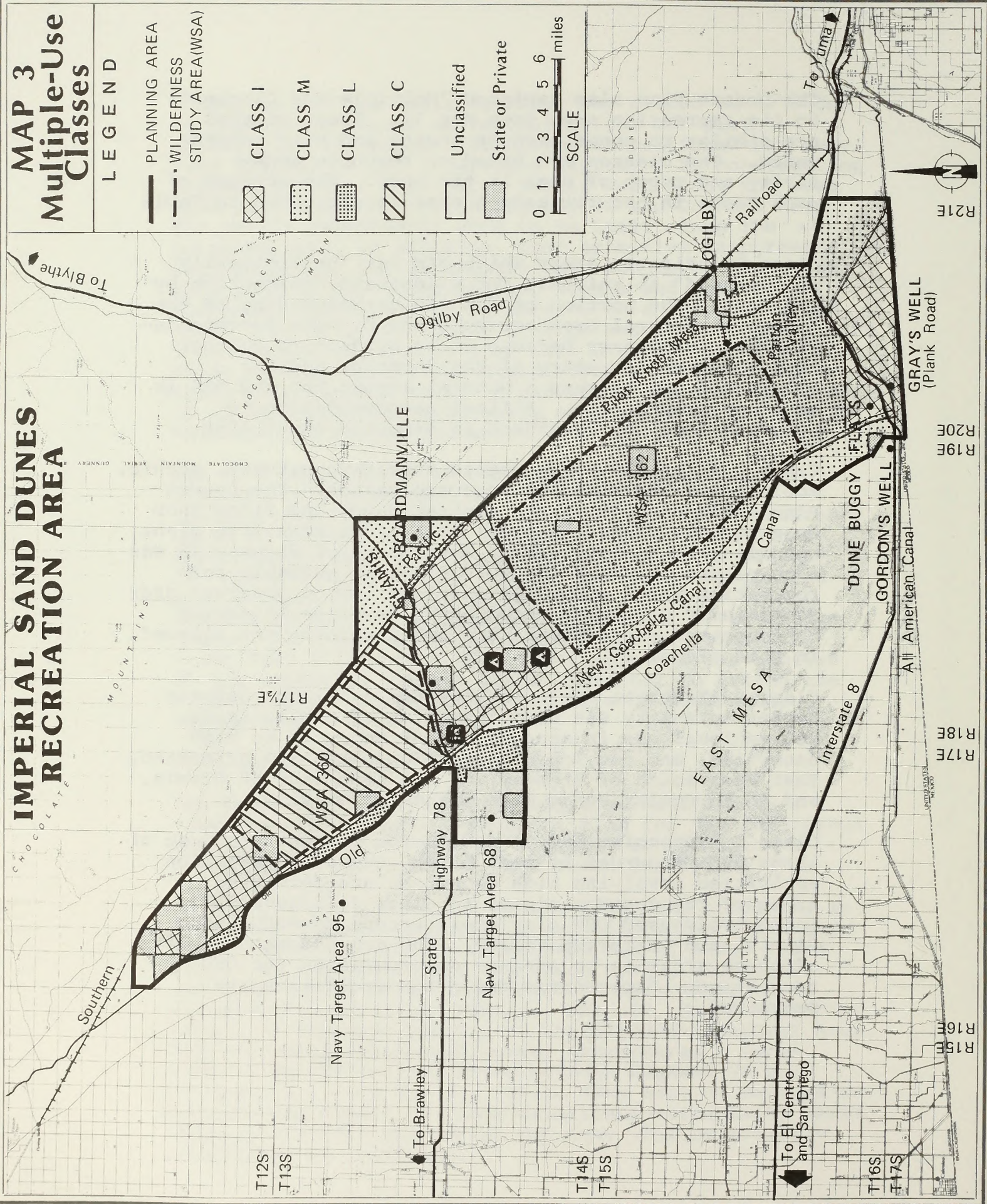
CLASS L

CLASS C

Unclassified

State or Private

0 1 2 3 4 5 6  
SCALE miles



The Desert Plan also designated lands for OHV use (Map 4). The entire dune system except for the Algodones Natural Area and South Ogilby Dunes was designated as "Open." The Algodones Natural Area was designated as "Closed," while South Ogilby Dunes was designated as "Limited to Approved Routes." East Mesa and the area east of Glamis were also designated as "Limited to Approved Routes." East Mesa lands around U. S. Navy bombing target 68 will be redesignated as "Closed" through a pending 1985 Desert Plan Amendment. The acreages of lands in each designation are presented in Table 2.

Lands classified as "L" or "M" are generally designated as "Limited" for OHV use. The exception is in sand dune areas, where all lands are generally designated either "Open" or "Closed" regardless of Multiple-Use Class. This exception to the general rule recognizes the impracticality of identifying individual vehicle routes in the sand dunes.

However, the Desert Plan made two "exceptions to the exception" in the Imperial Sand Dunes Recreation Area: the dunes at South Ogilby became "Limited to Existing Routes," while Pilot Knob Mesa (not a dune area) was designated "Open" Class I for manageability reasons.



The Glamis/Gecko Open Area was assigned to Multiple-Use Class I (Intensive Use) by the Desert Plan.

TABLE 1

## DESERT PLAN MULTIPLE-USE CLASSES\*

Class	BLM Public Lands (acres)	State and Private Lands Within Each Class*** (acres)
C	22,710	702
L	87,681	2,420
M	29,580	960
I	38,580	5,538
Unclassified	<u>5,760**</u>	<u>640</u>
TOTAL	184,311	10,260

\*Acreages incorporate changes from subsequent Desert Plan Amendments, including the U.S. Navy/BLM Amendment of 1985.

\*\*Includes 4,880 acres to be withdrawn to the U.S. Navy.

\*\*\*Desert Plan multiple-use classes do not apply to State and private lands. These acreages are shown here to indicate inholdings of lands to which the Desert Plan does not apply within each multiple-use class.

TABLE 2

DESERT PLAN OHV DESIGNATIONS<sup>1</sup>

Designation	BLM Public Lands (acres)	State and Private Lands Within Each Designation <sup>3</sup> (acres)
Open	118,261	7,638
Closed	27,510	702
Limited	32,780	1,280
Undesignated	<u>5,760<sup>2</sup></u>	<u>640</u>
TOTAL	184,311	10,260

<sup>1</sup> Acreages incorporate changes from subsequent Desert Plan Amendments, including the 1985 U. S. Navy/BLM Amendment.

<sup>2</sup> Includes 4,880 acres to be withdrawn to the U.S. Navy.

<sup>3</sup> Desert Plan OHV designations do not apply to State and private lands. These acreages are shown here to indicate inholdings of lands to which the Desert Plan does not apply within each OHV designation.

# IMPERIAL SAND DUNES RECREATION AREA

## MAP 4 OFF-ROAD VEHICLE DESIGNATION

**LEGEND**

PLANNING AREA

WILDERNESS

STUDY AREA (WSA)

OPEN

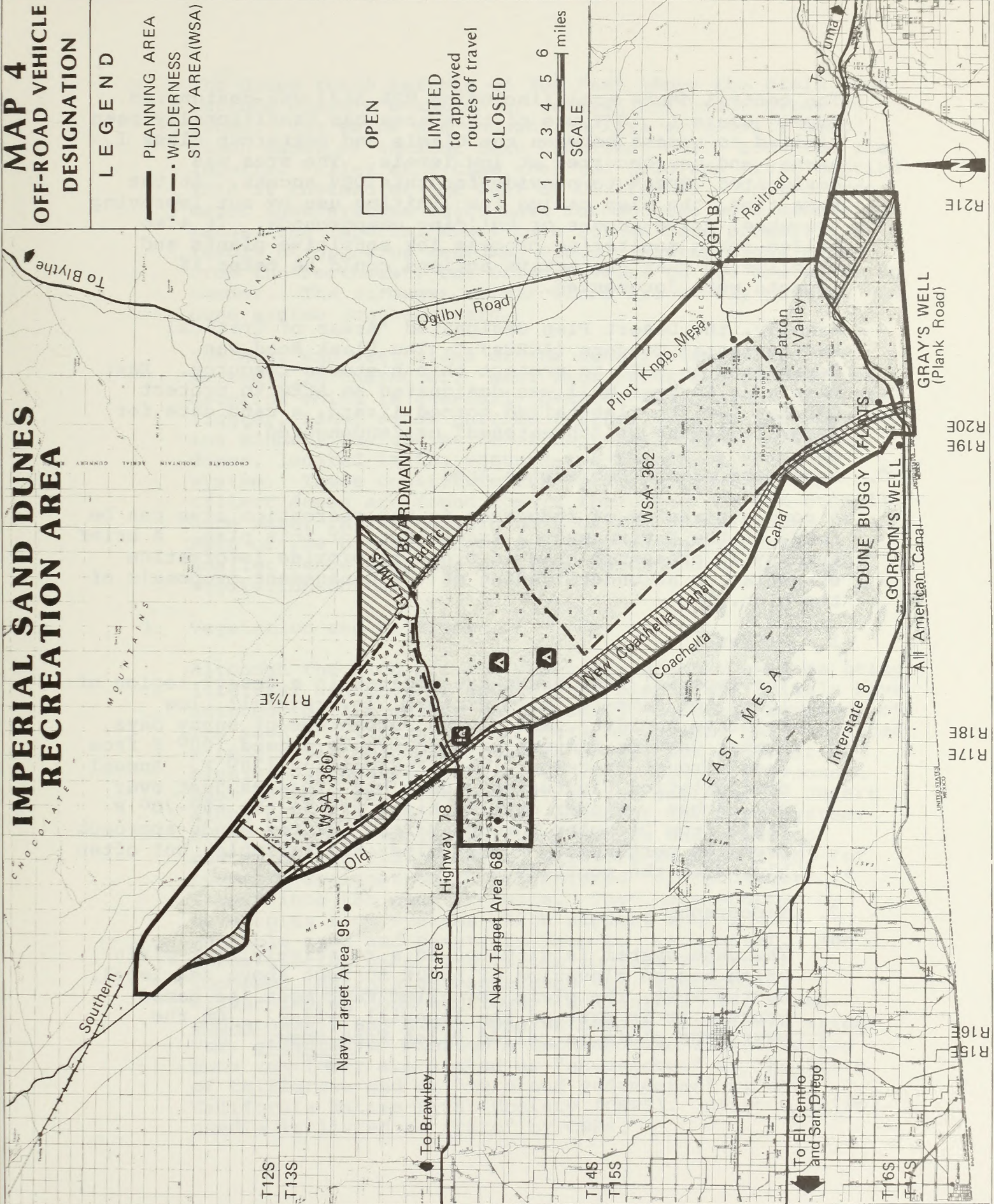
LIMITED  
to approved  
routes of travel

CLOSED

0 1 2 3 4 5 6

SCALE

miles



The central dunes area (including WSA 362) was designated "Open" Class L. OHV use of this area has traditionally been limited to access between the Glamis and Buttercup Class I areas, and has occurred at low levels. The area was designated "Open" to provide for this OHV access. At the same time, the plan called for limiting use by not improving two-wheel drive access or building campgrounds. It also called for a monitoring program for sensitive plants and wildlife so that protective actions could be taken if impacts were documented.

Finally, the Desert Plan designated "Areas of Critical Environmental Concern (ACECs)." The Plank Road was designated an ACEC to protect this historic resource. East Mesa near Gordons Well was designated an ACEC to protect habitat for the flat-tailed horned lizard, a candidate for Federal listing as "threatened" or "endangered."

#### C. Resources of the Recreation Area

A complete review of resources in the recreation area can be found in the Environmental Assessment for this plan. A brief summary is presented here in order to provide information essential to an understanding of the management proposals of the plan.

##### 1. Climate

The Imperial Sand Dunes are located in a desert region of long, hot summers, mild winters, low rainfall, low relative humidity, and a high percentage of sunny days. Summer daytime temperatures routinely exceed 100° F from June through September, and may approach 120° F. Annual precipitation fluctuates widely but averages just over two inches. Winter daytime highs are in the 60°-70° F range from December through March. Winter winds approach from the northwest. Summer winds are variable, but often blow from the southeast.

##### 2. Topography

The dune system is situated on a relatively flat plain which has an elevation of about 50 feet above sea level. On the west, the plain is called East Mesa (so named because it is east of the Imperial Valley). On the east, the plain is called Pilot Knob Mesa.

The dunes reach heights of 300 feet above the plain, and include classic examples of several different types of dunes. The sands are thought to have originally been beach sands of ancient Lake Cahuilla, which occupied the Imperial Valley at a time when the Colorado River emptied into it instead of the Gulf of California. Unlike some major dune systems which have formed next to a mountain range, the Imperial Dunes have formed here primarily as a result of opposing seasonal winds. Winter winds come from the northwest, but often reverse to the southeast in summer. The stronger winter winds are slowly pushing the dune system southeastward.

The east and west sides of the dune system differ markedly in character. West side sands are composed of material which is generally heavier and coarser than the lighter, finer sands carried further east in the prevailing winds. The coarse sands form the largest, tallest dunes, located in the western two-thirds of the dune system. These constitute the "primary dunes." The tallest dunes are found toward the center of the overall dune mass, in the eastern half of the primary dune area. East of the primary dunes are the "secondary dunes," smaller dunes composed of finer sands and having more vegetation cover.

### 3. Vegetation and Wildlife

Although the high primary dunes are often viewed as being lifeless, a number of specialized plants and animals have adapted to this unique environment. Constant movement of the sand and lack of water near the surface have produced a relatively sparse vegetation cover, but a number of highly adapted species are, in fact, common. Creosote bush extends into the dunes from the surrounding desert along both the east and west edges of the dune system. Other species, including three plants under status review by the U.S. Fish and Wildlife Service (FWS) for possible designation as "threatened" or "endangered," extend into the central dunes. They have adapted by developing root systems which support them in the unstable sand and penetrate deep to reach water. The three species under FWS review include Pierson's locoweed (Astragalus magdalenae var. Piersonii), silver-leafed dune sunflower (Helianthus niveus ssp. tepharodes), and giant Spanish needle (Palafoxia arida var. gigantea). Pierson's locoweed and silver-leafed dune sunflower are listed as "endangered" by the State of California and as "rare and endangered" by the California Native Plant Society (CNPS). Giant Spanish needle is listed as "rare" by CNPS.

In addition to the three plant species under review by FWS, three additional species are listed as "rare" or "endangered" by either the State of California or CNPS. These include sand food (*Ammobroma sonora*), the Borrego milkvetch (*Astragalus lentiginosus* var. *borreganus*), and Wiggins' croton (*Croton wigginsii*). Sand food and Wiggins' croton were reviewed by FWS, which found their status did not warrant listing as "threatened" or "endangered." While all six of the sensitive species mentioned above are found in few places other than sand dunes, they are common within the Imperial Dunes. A comprehensive sensitive plant study of the dune system was completed in 1977. Relative abundance and distribution of these six species were determined with reasonable certainty, but periodic monitoring is needed to determine if changes have taken place since that time.

Most large wildlife species seek the protection of the heavier vegetation along the dune periphery, though such mammals as coyote and mule deer are occasionally seen crossing the dune system. Rabbits, ground squirrels, and a variety of birds, lizards, and insects are seen throughout the dunes.

The secondary dunes are interrupted in places by basins or flats which support stands of trees such as mesquite, smoketree, ironwood, paloverde, and desert willow. These east side basins or pockets are especially common north of Highway 78.

The difference in vegetation between the west and east sides of the dunes is due largely to the amount of water available. Both sides receive very little precipitation. The moisture difference between west and east is largely attributable to the topography of the surrounding lands. North of Highway 78, intermittent streams draining the nearby Chocolate Mountains flow westward to the eastern edge of the dunes, which act like a dam to hold the water. Ponds form in the wooded eastside pockets during the springtime of wet years, supporting a flurry of life.

Mule deer from the Chocolate Mountain population frequent the tree-lined pockets, especially after spring or late summer rains have increased available forage. These deer range from the Chocolate Mountains westward through the dunes and into the neighboring East Mesa area, depending on the availability of water and forage. No formal population studies have been conducted, but California

Department of Fish and Game biologists estimate that 20-25 deer are often present in the area. While deer are less common south of Highway 78, they can be found in vegetated areas along the eastern dune margin.

The fine sands of the secondary dunes provide habitat for the Andrews dune scarab beetle, a species unique to the Algodones Dunes. This insect spends most of its life buried in the sand, emerging on April and May evenings to mate. The beetle is a candidate for FWS listing as a "threatened" or "endangered" species.

The flat-tailed horned lizard occupies the eastern and western margins of the dune system and adjacent flat sandy lands. This species is a candidate for FWS listing as a "threatened" or "endangered" species.

The Colorado Desert fringe-toed lizard is found throughout the dune system. This species, like the Andrews dune scarab beetle and flat-tailed horned lizard, is a candidate species for FWS listing as a "threatened" or "endangered" species.

The desert tortoise is known to occur along the eastern dune margin north of Highway 78. It is listed by BLM as a sensitive species and has been found by FWS to warrant listing as "threatened" or "endangered".

While all of the wildlife species discussed above are known to occur within the recreation area, their relative abundance and distribution are not known with certainty. Baseline studies and monitoring studies are needed to gain a better understanding of their status.

#### 4. Cultural Resources

The dunes contain little evidence of early man's permanent habitation. The dunes were crossed by travelers moving between ancient Lake Cahuilla and the Colorado River. Temporary campsites, often containing roasting pits, broken pottery, and arrowheads are sometimes found along the east and west edges of the dunes.

Historic cemeteries are located at the railroad townsites of Amos, Glamis, and Ogilby. The Glamis and Ogilby cemeteries are on private property.

Remnants of the Plank Road, a single-lane wooden roadway utilized to cross the dunes between 1914 and 1926, can be seen at Grays Well. A fenced section of the road has been established as an interpretive site.

The dunes are not known to have any special significance for Native Americans.

## 5. Energy Resources

Two Known Geothermal Resource Areas (KGRAs) underly the recreation area. The Glamis KGRA occupies a corridor along Highway 78, extending up to two miles north and three miles south of the highway. The northern third of the Glamis KGRA is in WSA 360. The Dunes KGRA occupies 16 sections of East Mesa and adjacent dunes in WSA 362. No geothermal leases have been issued. A number of oil and gas leases have been issued, mainly in the Class L area of the central dunes. No development has taken place.

## 6. Mineral Resources

The principal mineral resources are sand and gravel. The blow sand of the main dune system is occasionally used for fill material. Alluvial sand and gravel deposits east of Glamis are extracted for road base.

## D. Recreation Use of the Management Area

### 1. Use Statistics

During preparation of the Desert Plan, BLM conducted periodic aerial visitor counts of primary camping vehicles to establish use levels. These counts were suspended between 1978 and 1984 for budgetary reasons. A combination of aerial flights and ground counts was conducted in 1984-85 to prepare for the Imperial Sand Dunes Plan. The following data are estimates based on these counts.

Table 3                      IMPERIAL SAND DUNES RECREATION AREA  
RECREATION VISITS\*

AREA	1977	1978	1985
Mammoth Wash	5,300	4,800	5,100
Glamis/Gecko	83,800	107,000	140,200
East of Glamis (Hwy 78)	400	700	4,200
Gordons Well/Ogilby	24,000	12,300	28,600
Buttercup/Plank Road	17,600	25,600	42,700
East Mesa near Dunes	300	700	5,100
TOTAL	131,400	151,000	225,900

\*A "recreation visit" is a visit to BLM lands by one person for the purpose of engaging in any recreation activity, whether for a few minutes, full day, or more.

"Recreation Visit" data give an indication of how many times per year people go to the dunes for recreation, but don't give the full picture, because the length of each visit is not indicated. Both the number and length of recreation visits are considered in "Visitor Use Day" (VUD) statistics. A VUD is equal to 12 hours spent in pursuit of recreation by one person.

Table 4                    IMPERIAL SAND DUNES RECREATION AREA  
VISITOR USE DAYS (VUDs)

AREA	1977	1978	1985
Mammoth Wash	26,000	19,000	19,000
Glamis/Gecko	317,000	380,000	489,000
East of Glamis (Hwy 78)	700	1,700	16,000
Gordons Well/Ogilby	77,000	43,000	100,000*
Buttercup/Plank Road	64,000	86,000	149,000
East Mesa near Dunes	1,000	500	19,000
TOTAL	485,700	530,200	792,000

\*Ogilby accounted for only 9,000 VUDs of this total in 1985.

Sand Dunes use is heavily oriented toward weekends and holidays, as reflected in the following table:

Table 5                    IMPERIAL SAND DUNES RECREATION AREA  
DISTRIBUTION OF VISITOR USE DAYS (VUDs)

	1977	1978	1985
Thanksgiving	117,000 (24%)	107,200 (20%)	230,000 (29%)
3-day Holidays	160,000 (33%)	164,000 (31%)	264,000 (33%)
Non-Holiday Week-ends	161,000 (33%)	217,000 (41%)	267,000 (34%)
Weekdays	47,000 (10%)	42,000 (8%)	31,000 (4%)
TOTAL	485,700 (100%)	530,200 (100%)	792,000 (100%)

## 2. Projected Use of the Recreation Area, 1986-2000

Future use trends are difficult to predict with certainty, but the general trend is unmistakably up. Use increased by 49% overall (5.4% per year average) in the seven years between 1978 and 1985. During the same period, the population of Southern California increased by approximately 15% and the population of Arizona by approximately 35%. While population growth is undoubtedly a major factor, other important factors must also be contributing.

The rise in popularity of small all-terrain vehicles (ATVs) has no doubt been a major factor. Sales of ATVs, which are far less expensive than the average dune buggy, skyrocketed in the early 1980s, bringing a large additional group of visitors to the dunes. Stable to declining gas prices have also no doubt encouraged vehicle-based recreation.

The Southern California Association of Governments predicts population growth between 1984 and 2000 of about 19% for the counties in the association (which includes Ventura, Los Angeles, San Bernardino, Orange, Riverside, and Imperial Counties, but excludes San Diego County). This represents somewhat of a moderation in growth from the period 1978-1985. According to projections by the U.S. Bureau of the Census, the population of Arizona will continue to increase at an undiminished rate, growing 105% between 1980 and 2000. It is more difficult to predict technological changes, trends in gas prices, and changes in public recreational preferences during the period between the present and 2000.

For purposes of this plan, BLM will assume that the rate of increase in Imperial Sand Dunes visitation will continue at a slightly reduced rate of 5% per year between 1986 and 2000 (with the exception of the central dunes and Pilot Knob Mesa areas). This results in the visitation projection presented in Table 6.

Table 6

ANTICIPATED OHV USE LEVELS AND USE DENSITIES  
IMPERIAL SAND DUNES RECREATION AREA

USE ZONE	1985			1995			2000		
	VUDs	Density (VUD/Acre/Yr.)		VUDs	Density (VUD/Acre/Yr.)		VUDs	Density (VUD/Acre/Yr.)	
Mammoth Wash Open Area (11,000 Acres*)	19,000	1.7		20,000	1.8		25,000	2.3	
Glamis/Gecko Open Area (22,000 acres)	489,000	22.2		817,000	37.1		1,051,000	47.8	
WSA 362/ Central Dunes <sup>1</sup> Class L (65,000 acres)	6,000	0.1		14,000	0.2		21,000	0.3	
Ogilby/Pilot Knob Mesa <sup>2</sup> (15,300 acres)	9,000	0.6		19,000	1.2		29,000	1.9	
Buttercup Valley Open Area (12,500 acres)	240,000	19.2		397,000	31.7		508,000	40.6	
East of Glamis (Highway 78) (9,300 acres)	16,000	1.7		27,000	2.9		35,000	3.8	
East Mesa Near Dunes <sup>3</sup> (29,000 acres)	19,000	0.6		17,000	0.6		22,000	0.7	
TOTAL	792,000	5.0 <sup>4</sup>		1,297,000	8.1 <sup>4</sup>		1,670,000	10.4 <sup>4</sup>	

NOTE: Assume 5% increase in VUDs per year unless otherwise noted.

<sup>1</sup>Central dunes VUDs are not counted in the recreation area total. This is because recreation area visitation is normally figured by counting primary camping units. Since little or no camping takes place in the central dunes, no use count has been made. Users of the central dunes enter this area from campsites in adjacent use zones, where they have already been counted. Central dunes use figures are estimates. An 8% annual increase in VUDs is assumed for the central dunes, as increasing numbers of users seek less congested areas.

<sup>2</sup>An 8% annual increase in VUDs is assumed for Pilot Knob Mesa, in keeping with the trend between 1978-1985.

<sup>3</sup>The BLM/U.S. Navy Cooperative Agreement, which resulted in closure of some East Mesa lands, will reduce East Mesa use by 9,000 VUDs in 1987. This has been taken into account in 1995 and 2000 figures.

<sup>4</sup>Density is based on 160,000 acres which are available for OHV use in the recreation area.

### 3. Activities and Use Zones

The Imperial Sand Dunes encompass the most intensively visited recreational area in the California Desert Conservation Area, accounting for approximately one-sixth of the conservation area's total recreational VUDs. Use centers around the operation of OHVs, principally dune buggies and ATVs. The most heavily used area is the 22,000-acre Class I area immediately south of Highway 78. Most users know it simply as "Glamis," but this area also includes Osborn Park, Gecko Campground, and the Cahuilla Ranger Station. On such winter holiday weekends as Thanksgiving and Washington's Birthday, the Glamis/Gecko area is commonly visited by between 10,000 and 15,000 recreationists.

In the past five years as conditions have grown more congested around Glamis, use of lands east of Glamis has risen sharply. This land is situated on an alluvial fan extending south from the Chocolate Mountains. Numerous abandoned gravel pits are utilized as camping areas.

The 11,000-acre Class I area near Mammoth Wash at the north end of the dunes receives only light to moderate use. It is the only major use zone in the recreation area to show a stable use trend over the past seven years. This is largely because access to the area is difficult. The graded Niland-Glamis Road approaches to within about two miles of Mammoth Wash from Glamis, but this is an inconvenient direction for users approaching from the coast. Access from the west involves driving farm and canal roads to reach the wash where it crosses the Coachella Canal.

The Algodones Natural Area (WSA 360) receives light use (estimated at 500 VUDs annually). Most use takes the form of short photographic and sightseeing walks from Highway 78, although hiking, backpacking, and nature study trips also occur.

The 65,000-acre central dunes Class L area including WSA 362, but excluding Pilot Knob Mesa (Ogilby) is also lightly used. The exact level of use is must be estimated from the levels of adjacent camping areas where central dunes use originates. Based on the results of informal interviews with dunes users conducted by BLM staff in 1985, it is estimated that visitors to the Gordons Well (Dune Buggy Flats) and Ogilby areas spend an average of 1.0 hour per visit riding in the central dunes. Visitors to the



Gecko Campground was originally designed to accommodate 60 camping units. As many as 700 camping units crowd into the facility on busy winter holiday weekends.



On a busy weekend, every patch of ground hard enough to support a motor home is pressed into service for camping space. However, some natural areas of hard ground in Class I are not used because of poor access for camping vehicles.

Glamis/Gecko and Buttercup/Grays Well areas spend an estimated average of 0.2 hours per visit riding in the central dunes. Multiplying the recreation visit data for these areas times these factors produces a 1985 use estimate of about 6,000 VUDs. Use consists almost exclusively of OHV day use with little camping use.

Pilot Knob Mesa, which includes Ogilby, received an estimated 9,000 VUDs in 1985. Most use occurs at the end of a dirt road (occasionally graded by the U.S. Border Patrol) three miles west of Ogilby townsite near the boundary of WSA 362. On an average winter weekend, approximately 12 camping units (about 40 visitors) use the area as a jumping-off point for OHV trips into the dunes. On major holiday weekends, use averages 55 camping units (190 visitors), though 493 units (1,600 visitors) were counted on Thanksgiving weekend, 1984. Ogilby is especially popular with visitors from Yuma, which is only 20 miles away.

The South Ogilby Dunes area receives very light use, estimated at 1,000 VUDs or less per year. Camping units are only very rarely recorded in this area during visitor count flights. However, a non-profit organization does conduct a group ceremony immediately adjacent to the Ogilby freeway interchange on one weekend each year. This event, which includes camping but not the use of OHVs, accounts for about 250 VUDs.

The southern 12,000-acre Class I area is usually called the Buttercup Valley Open Area, although it is made up of three distinct subunits. North of Interstate 8 on the west side of the dunes is Gordons Well (Dune Buggy Flats). Directly across the freeway (south) from Dune Buggy Flats is the Grays Well area, at which the Plank Road historical site is located. East of Grays Well, in the heart of the dunes, is Buttercup Valley. These three areas are steadily growing in popularity, despite legal access problems involving the freeway and canal crossings.

#### 4. Current Recreation Management Situation

There are currently no BLM employees assigned exclusively to the Imperial Sand Dunes. The El Centro Resource Area, which includes the dune system and an additional 1 million acres of public land in Imperial and San Diego counties, has a staff of 19. Included in this staff are 4 BLM Rangers and 1 maintenance worker.

One of the Rangers is assigned to a sector which includes the Imperial Sand Dunes and an additional 200,000 acres of nearby public lands. On major holiday weekends during the use season, the sector Ranger is joined by a second Ranger and a third employee (usually a Recreation Planner) who serves as radio dispatcher at the Cahuilla Ranger Station near Gecko Campground. The Ranger Station is open 8 hours each day during holiday periods (approximately 20 days per year). The Ranger Station is closed at all other times.

Until the 1984-85 season, the Ranger Station was operated 16 hours a day with 24-hour emergency medical assistance during holiday weekends. Service had to be reduced to 8 hours a day in 1984-85 in order to provide needed patrol coverage of the 1 million acres of public lands outside the sand dunes.

The one maintenance worker is responsible for all maintenance of facilities on public lands in Imperial and San Diego Counties. These include two campgrounds and five Long Term Visitor Areas (winter visitor camps) in areas outside the sand dunes. Within the sand dunes, maintenance is restricted to trash removal and sanitation of Gecko Campground and nearby areas along the Imperial Sand Dunes Road. Sand removal from Gecko Campground and the Sand Dunes Road is normally accomplished by contract.

#### E. Identification of Major Issues

The El Centro Resource Area conducted a series of four public planning workshops on the Imperial Sand Dunes in April 1985. The workshops were announced in a letter sent to 1500 individuals, groups, and government agencies in California and Arizona, and were publicized through the news media.

Attendance was as follows:

El Centro (April 15)	10
Yuma (April 16)	27
San Diego (April 17)	51
Riverside (April 22)	49
TOTAL	<u>137</u>

The objective of the workshops was to identify and prioritize management issues, concerns, and problems relating to the Imperial Sand Dunes. Meeting participants divided into workgroups of 10 to 15 persons each. Through a technique called "brainstorming," workgroup members identified as many

issues, problems, and concerns as possible in a one hour period. The objective was to identify as many ideas and issues as possible without taking time to evaluate or criticize the ideas. Following the brainstorming sessions, group members ranked the issues using a numerical scoring method.

Written input was also solicited from those unable to attend the workshops. A total of 42 letters containing written comments on Imperial Sand Dunes management issues was received by April 30, 1985. Of the total responses, 31 came from individuals (23 from California, 8 from Arizona), 7 from organizations (5 from California, 2 from Arizona), and 4 from government agencies (3 from California state agencies, 1 from a Federal agency).

Following analysis of workshop results and the 42 letters on issues, 12 major issue categories were identified. A planning workbook was developed and sent in late May 1985, to all workshop participants and those who sent letters on issues. The purpose of the workbook was to solicit more detailed responses from those who had participated in the initial scoping process, and to seek specific suggestions on actions to resolve the issues.

Following analysis of the 33 workbook responses (26 from individuals, 2 from State agencies, and 5 from organizations), and concerns identified by BLM managers, a final list of 63 major issues requiring resolution was developed.

These 63 issues, organized by the 12 major issue categories, are as follows:

#### 1. Recreation Opportunities

- a. Overcrowding of camping and riding areas.
- b. Short supply of hard surfaced parking areas for camping.
- c. First-come first-served rule should be enforced for camping space.
- d. Need OHV access between Gecko area and Mammoth Wash.
- e. Development and encouragement of non-OHV recreational opportunities.

#### 2. Safety and Emergency Services

- a. Need public safety training/education.
- b. Need to relieve congestion (see issue 1a above).
- c. Need to enforce safety laws and equipment regulations.

- d. Poor visibility of vehicles in the dunes results in collisions.
- e. People drive too fast near camping areas.
- f. Broken glass is a problem near camping areas.
- g. Dangerous highway crossing at Buttercup.
- h. Need better emergency services at Buttercup, Mammoth Wash, and when no Ranger is at Cahuilla Ranger Station.
- i. Need a coordinated safety plan addressing all types of accidents and how to reduce rates.

### 3. Resource Protection and Enforcement

- a. Need baseline data studies on sensitive wildlife species.
- b. Need a monitoring plan for sensitive plant and wildlife species.
- c. Need to define impact thresholds and corresponding management response.
- d. Need public education on appreciation of sensitive resources.
- e. Need to increase patrol and enforcement, especially at Buttercup, Ogilby, Mammoth Wash.
- f. Improved enforcement of existing resource protection vehicle closures.
- g. Camping and staging is taking place near some sensitive areas.

### 4. Protection of Wilderness Suitability

- a. Public doesn't know where WSAs are.
- b. Some users don't understand why wilderness is important or appreciate the need for protection.
- c. Public is camping and staging near WSA boundaries.

### 5. Public Contact and Interpretation

- a. Need to emphasize resource protection themes.
- b. Need to emphasize safety themes.
- c. Need more interpretive signs about the reasons for closures, regulations, and other protection measures.
- d. Need more brochures and maps and to improve brochure/map distribution.
- e. Need more direct contact between BLM representatives and the public.

### 6. Facility Development

- a. In concentrated camping areas, more parking, trash receptacles, and toilets are the major needs.

- b. Need toilets, trash service, parking in the south dunes (Buttercup, Grays Well, and Gordons Well).
- c. Need toilets and trash service at camping areas around Glamis.
- d. Need more parking and toilets along the Imperial Sand Dunes (Gecko) Road.
- e. Need toilets, parking, and trash service at Mammoth Wash.
- f. Need sewage dump stations.
- g. Need an OHV access corridor over Interstate 8 and the All-American Canal in the south dunes (Buttercup).
- h. Need better access roads to Buttercup, Gordons Well (Dune Buggy Flats), Mammoth Wash, and campsites around Glamis.
- i. Need pay phones at Buttercup, Cahuilla Ranger Station, and Mammoth Wash.

#### 7. Operations and Maintenance

- a. Need to increase patrol and enforcement hours, particularly at Buttercup.
- b. Need to better maintain existing facilities.
- c. Need to maintain proposed new facilities.
- d. Need to control the litter problem.
- e. Need to identify alternate funding sources.
- f. Need to identify staffing needs.
- g. Need to encourage volunteers for non-hazardous patrol, maintenance, first-aid.
- h. Need to identify functional priorities of the Ranger, Recreation Technician, and Maintenance staffs in order to make most effective use of limited funds.

#### 8. Concessions and Vendors

- a. Need to identify and/or develop appropriate locations for vendors.
- b. Existing sources of goods and services on nearby private lands should be considered in decisions affecting BLM concessions.
- c. Need to develop a list of goods and services which are inappropriate for vending because they conflict with BLM management objectives.
- d. Need to identify needs and services which could be best provided by long-term concession leases.
- e. Need to identify locations for potential leasing for long-term concessions.

9. Acquisition of Legal Access and Undeveloped State and Private Inholdings.

- a. Need legal access to campsites around Glamis, Gordons Well (Dune Buggy Flats), and Mammoth Wash.
- b. Need to acquire inholdings in Class I areas to improve manageability of OHV areas.
- c. Need to acquire inholdings in WSAs and sensitive resource areas in order to protect resources.

10. Compatibility of Land Uses

The public lands of the recreation area are multiple use and multiple value lands. Management actions are needed to insure compatibility of recreation and non-recreation uses.

- a. Compatibility of recreation and Bureau of Reclamation projects such as lining the All-American Canal.
- b. Compatibility of recreation and Navy uses on cooperative agreement lands near bombing targets.
- c. Compatibility of recreation and sand and gravel extraction operations.
- d. Compatibility of recreation and mining claims/mining operations.
- e. Compatibility of recreation and existing or new powerlines, pipelines, roads, or other uses authorized by right-of-way.
- f. Compatibility of recreation and apiary sites, commercial filming, and other special uses authorized by temporary use permit.
- g. Compatibility of recreation and energy leasing (geothermal and oil and gas).

11. Use Fees

- a. Should a fee be charged for use of the Imperial Sand Dunes in order to defray the costs of development, operations, and maintenance?

12. Potential Desert Plan Amendments

- a. If changes in Desert Plan decisions are identified through the RAMP as being necessary for improved management of the recreation area, Desert Plan amendments must be proposed. Many such potential amendments were proposed by the public during the issue identification process. Included were proposals for basic changes to multiple-use classes, off-highway vehicle designations, and wilderness suitability recommendations.

## F. Determination of Issues to Be Resolved in the RAMP

Following identification of major management issues, the issues were analyzed by El Centro Resource Area staff and management. Through this analysis, a determination was made as to which issues were appropriate for resolution in the RAMP, and which must be deferred to other administrative or legislative processes for resolution.

The analysis determined that major Issues 1 through 10 would be addressed by the RAMP. Issue 11, Use Fees, and Issue 12, Potential Desert Plan Amendments will be addressed as follows:

### Issue 11, Use Fees

The issues of use fees and funding for recreation programs are two of the major issues facing the President's Commission on Americans Outdoors (PCAO). The PCAO is currently evaluating national policy options in this area, and will be issuing its recommendations in early 1987. Implementation of many of the PCAO recommendations will require subsequent legislative action. The resulting new policies and laws will undoubtedly make important changes to Federal use fee and recreation program funding policy.

BLM enthusiastically supports the concept of use fees to provide for development, operation, and maintenance of recreation areas. However, the likelihood of major upcoming adjustments in Federal fee policy makes development of detailed proposals for the Imperial Sand Dunes premature at this time. The issue of use fees is therefore deferred for resolution as part of a Desert District-wide reassessment of use fee policy to be conducted following issuance of the PCAO Report.

### Issue 12, Potential Desert Plan Amendments

Numerous potential Desert Plan amendments were identified by the public at the workshops and in subsequent responses to the planning workbook. Potential amendments addressed four main subject areas:

Multiple-Use Class Changes: The RAMP may make recommendations for class changes as may be necessary to resolve issues identified during the RAMP process. However, the RAMP will assume that no class changes will occur within wilderness study areas until after Congressional resolution of the wilderness designation issue. Any recommended changes outside WSAs would be expected to affect relatively small acreages as necessary to resolve issues on a site-specific basis.

ORV Designation Changes: The RAMP may make recommendations for designation changes as may be necessary to resolve issues identified during the RAMP process.

Wilderness Suitability Recommendation Changes: California BLM policy limits future suitability recommendation amendments to those which may be warranted following completion of mineral reports for recommended suitable WSAs. The RAMP will assume that current suitability/nonsuitability recommendations will remain unchanged.

Management of WSAs Designated as Wilderness or Released for Other Multiple Uses: In the event of wilderness designation, the affected WSA will be managed according to BLM's Wilderness Management Policy and provisions of the enabling legislation. In addition, a Wilderness Management Plan will be prepared following designation. In the event that Congress releases WSA 360 for other multiple uses, it will be reclassified into a new multiple-use class through the Desert Plan amendment process. Management of WSA 362 will remain unchanged in the event of release unless the area is reassigned to a different multiple-use class through the plan amendment process.

Since Congressional action is probably at least five years in the future, it would be premature to make detailed proposals at this time for management following resolution of the wilderness designation question. Therefore, the current RAMP will focus on interim management of the WSAs and will not give detailed consideration to management beyond the point of Congressional action. However, the RAMP will represent a general outline for future management in the event Congress accepts BLM's suitability recommendations.



## PART II



## Part II - Management Objectives and Constraints

### A. Total Area Management Objectives

The Desert Plan established management guidelines for the multiple-use classes and presented decision rationale for the classification of lands in the Imperial Sand Dunes Recreation Area. However, it did not establish management objectives for the recreation area as a total unit. For this reason, total area management objectives were developed as part of the RAMP process.

Criteria used in developing total area management objectives included Desert Plan decisions from the various Plan Elements, the Multiple-Use Class Guidelines, the decision rationale for planning units 102 (Mesquite-Cargo Muchacho), 103 (Imperial Sand Dunes), and 104 (East Mesa) as contained in Appendix II of the Desert Plan, and the various parameters established by BLM, Departmental policy, and Federal laws. These criteria were utilized in developing the following overall objectives for resolution of the issues to be considered in the RAMP:

1. Provide for a wide range of motorized and nonmotorized recreation opportunities to meet both current and long range recreation needs through 2000 A.D.
2. Accommodate, if demand develops, up to 1.7 million VUDs of recreational use by 2000 A.D. (a 115% increase over 1985 levels).
3. Enhance public safety through a positive program of education, enforcement of safety laws and regulations, and timely emergency response.
4. Provide for systematic monitoring of sensitive biological and cultural resources and recreation use, and development of management guidelines for resource protection.
5. Protect the suitability of wilderness study areas (WSAs) for designation as wilderness, through a systematic program of monitoring and enforcement, and strict adherence to the Bureau's Interim Management Policy (IMP).
6. Develop a low cost interpretive program which emphasizes that all citizens share ownership of the Imperial Sand Dunes and responsibility for what happens to them, and which emphasizes the two major themes of safe vehicle operation and protection of sensitive resources.

7. Implement a limited program of phased facility development which emphasizes improved public access, parking, and sanitation, while minimizing operation and maintenance costs.
8. Insure, through coordinated implementation phasing, that facility development does not exceed BLM's ability to operate and maintain the facilities or monitor sensitive resources.
9. Implement an operation and maintenance program which adequately meets increasing requirements for recreation area administration, patrol, and maintenance of developed facilities, and which does so in a cost-effective manner.
10. Acquire undeveloped parcels of State and private land within the dune system, in order to insure continued availability of recreation opportunities, enhance recreation area manageability, and provide for protection of resources.
11. Acquire legal public access to all major recreation use areas in order to insure continued availability of recreation opportunities.
12. Minimize potential conflicts between recreation use and other resource uses of the recreation area.

B. Multiple-Use Class Objectives

1. Class C - North Algodones Dunes WSA 360 (Algodones Natural Area)
  - a. Aggressively enforce the existing vehicle closure.
  - b. Enhance nonmotorized recreation opportunities.
  - c. Protect wilderness suitability in accordance with BLM's Interim Management Policy.
  - d. Monitor and protect the integrity of plant and wildlife habitat.
2. Class L
  - a. Provide for a variety of recreation opportunities at low to moderate use densities.
  - b. Discourage encroachment of intensive recreation activity from adjacent Class I lands.

c. Manage the Central Dunes (South Algodones Dunes WSA 362) to:

- 1) Protect wilderness suitability in accordance with BLM's Interim Management Policy.
- 2) Protect sensitive plant and wildlife species.
- 3) Provide for both nonmotorized and motorized recreation activities at low use densities.
- 4) Limit use by refraining from facility or access development.
- 5) Implement a thorough monitoring program to track recreation use and the condition of sensitive species.

d. Manage Pilot Knob Mesa (including Ogilby) and Class L lands south of WSA 362 to:

- 1) Provide for both motorized and nonmotorized dispersed-site recreation opportunities at generally low to moderate use densities.
- 2) Protect sensitive plant, wildlife, and cultural resources.
- 3) Implement a thorough monitoring program to track recreation use and the condition of sensitive species.

e. Manage the north Coachella Canal corridor (area north of Highway 78 between the old and new Coachella canals) to:

- 1) Provide north-south OHV access on approved routes.
- 2) Protect wildlife habitat.

f. Manage lands surrounding Navy Target 68 to:

- 1) Provide for Navy operational needs.
- 2) Promote public safety.
- 3) Protect wildlife habitat.

NOTE: These lands are at present assigned to Class M. They will be reassigned to Class L through a 1985 Desert Plan Amendment concerning Navy operations in Imperial County.

3. Class M

- a. Provide a variety of recreation opportunities at moderate to high use densities.

- b. Manage the south Coachella Canal corridor (area south of Highway 78 between the old and new Coachella canals) and Class M lands near Gordons Well to:
  - 1) Provide vehicle access on approved routes.
  - 2) Provide dispersed-site camping opportunities.
  - 3) Protect wildlife habitat within the Southern East Mesa ACEC.
  - 4) Minimize potential conflicts between recreation use and energy development.
- c. Manage lands east of Glamis along Highway 78 to:
  - 1) Provide safe vehicle access on existing routes between these lands and the dunes near Glamis.
  - 2) Provide dispersed-site camping opportunities.
  - 3) Minimize potential conflicts between recreation use and development of mineral and energy resources.
- d. Manage the South Ogilby Dunes (lands south of Interstate 8 and east of the All-American Canal) to provide for generally low levels of dispersed site camping and OHV use.

#### 4. Class I

- a. Provide for continuation and enhancement of traditional OHV recreation opportunities.
- b. Provide for safe use at moderate to high densities.
- c. Relieve occasional congestion and overcrowding by dispersing use throughout available Class I lands.
- d. Relieve litter and sanitation problems.
- e. Improve emergency communication between recreation area users and BLM or other emergency services agencies.
- f. Develop a concession and vendor program which:
  - 1) Meets identified public needs for goods and services.
  - 2) Enhances enjoyment of the recreation area.
  - 3) Supports recreation area management objectives.
  - 4) Reduces BLM operation and maintenance costs.

## C. Management Constraints

### 1. California Desert Plan

The RAMP must be prepared within the general framework established by the Desert Plan. See the "Previous Planning" section on p.4 and the discussion of potential Desert Plan amendments on p.26.

### 2. Other Activity Plans

The Desert Plan directed completion of a Plank Road ACEC Management Plan (completed in 1985) and Imperial Sand Dunes Habitat Management Plan (scheduled for completion in 1987). In addition, two completed wildlife plans affect a small part of the RAMP area. These are the East Mesa Habitat Management Plan and Southern East Mesa ACEC Plan. Consistency between plans is essential.

### 3. Authorized Uses Other Than Recreation

#### a. Bureau of Reclamation (BR) Withdrawals

While most BR-withdrawn lands have been relinquished within the recreation area boundary, some of the lands around the U.S. Navy East Mesa Target Area and between the old and new Coachella canals remain withdrawn. Under terms of a 1978 agreement, BLM has recreation management responsibility for these lands but must obtain BR concurrence on all management actions. In addition, BR retains a withdrawal on the rights-of-way of the new Coachella Canal and All-American Canal (1,000 feet on either side of the canal centerline). These rights-of-way are not covered by the 1978 agreement. All BLM management programs initiated within the canal rights-of-way must be approved by BR. BR programs are the paramount use on all BR-withdrawn lands. The most significant BR program potentially affecting the recreation area in the near future is the proposal to construct a new concrete-lined All-American Canal. In the recreation area, this new canal would be constructed immediately adjacent to the present canal on the north side.

#### b. U.S. Navy/BLM Cooperative Agreement

The U.S. Navy and BLM have developed a Cooperative Agreement for management of public lands in range safety zones surrounding Navy Targets 68 and 95 on

East Mesa. A Desert Plan amendment necessary to implement the agreement was proposed in 1985 and is nearing approval. The amendment will close East Mesa lands between Target 68 and the old Coachella Canal to OHV use. Under terms of the Cooperative Agreement, the Navy will review all proposed management actions within Range Safety Zone C (which includes the Gecko area and much of WSA 360) to insure consistency with structural height restrictions and other guidelines to safeguard aircraft operations near the targets.

c. Sand and Gravel Sales Applications

All sand and gravel sales activity in the recreation area is found on the Glamis-Boardmanville Class M lands. Free-use and sales permits have been issued for sites in Sections 19, 22, 23, 24, 26, 27, and 34, T. 13 S., R. 18 E., SBM. Sections 22, 23, and 24 are withdrawn from mineral entry for the purpose of facilitating sand and gravel extraction.

d. Geothermal Leases

The Glamis and Dunes Known Geothermal Resource Areas (KGRAs) are for the most part situated within the recreation area. However, industry interest in the KGRAs appears to be minimal, since no applications have been filed. BLM prepared an EA for geothermal leasing in the recreation area in 1981. The resulting decision of the California State Director was that the north half of the dunes system (Mammoth Wash Open Area, WSA 360, and the Glamis/Gecko Open Area) be closed to all geothermal leasing. The dunes south of the Glamis/Gecko Open Area would be open to leasing subject to a no surface occupancy stipulation. All areas outside the dunes proper would be open to leasing with appropriate mitigations.

e. Oil and Gas Leases

A number of oil and gas leases have been issued for southern WSA 360, the Glamis/Gecko Open Area, and WSA 362. A moratorium on further leasing is in effect in the WSAs. No development has occurred on any of the leases.

f. Mining Claims

All mining claims in the RAMP area are located within the Glamis-Boardmanville Class M lands in Sections 19, 21, 25, 26, 27, and 28, T. 13 S., R. 18 E., SBM and in the Pilot Knob Mesa area. No mineral extraction has occurred in these areas, and no recreation conflicts are foreseen.

g. Utility and Transportation Rights-of-Way

Two major transportation rights-of-way (State Highway 78 and Interstate Highway 8) cross the recreation area in an east-west direction. The Southern Pacific Railroad right-of-way forms much of the east boundary of the area. Approximately eight miles of the railroad right-of-way in the Glamis area is included within the RAMP area. The only major existing utility corridor within the recreation area passes through the Buttercup Valley Open Area parallel to Interstate 8. Existing facilities include a 500 kV transmission line and a number of smaller power and telephone lines. Powerlines also parallel the new Coachella Canal and Southern Pacific Railroad. A high-pressure gas pipeline is also located within the railroad right-of-way. A microwave relay tower was recently authorized and erected on public lands west of Ogilby. A current right-of-way project proposal involves a buried telephone line along Highway 78.

h. Apiary Sites

Temporary use permits have been issued for numerous apiary sites along both the old and new Coachella canals.

4. Wilderness Interim Management Constraints

WSA 360 and WSA 362 must be managed according to BLM's Interim Management Policy until Congress either designates them as wilderness or releases them for other types of multiple-use management. This precludes any uses or developments which would impair wilderness suitability.



# PART III

## The Management Program

The Management Program is designed to provide a framework for the development and implementation of the organization's management system. It is a comprehensive program that covers all aspects of management, from planning and organization to control and evaluation. The program is designed to be flexible and adaptable to the needs of the organization, and it is intended to be a continuous process that evolves over time.

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### Part III - The Management Program

Note: All actions are prioritized by funding level. These levels are not alternatives. They are all proposed, depending on funding available and actual trends in recreational demand and use levels during the life of the plan. Final decisions to proceed with Level 4 and 5 facility development and concession leasing proposals will be especially dependent on actual use trends in the mid-1990s. Another important feature of the plan is that facility development at any particular level WILL NOT occur unless the staffing, resource protection, and maintenance funding for the same level is available.

Level 1: Reduced management capability (reduced funding level). This will result in a steady decline in visitor services, emergency medical assistance, facility maintenance, and resource monitoring and enforcement capabilities as use levels increase.

Present Management: Present funding for management is at a level between Level 1 and Level 2. If present funding is maintained, the level of services and enforcement capabilities will decline as use levels increase, but at a more gradual rate than under Level 1. Management problems will become acute by the mid-1990s. Because the RAMP details management actions to resolve those problems, present management is not carried through the plan as a funding level. It is, however, described in Chapter 2 of the Environmental Assessment as Alternative B-No Action (page EA-12).

Level 2: Maintain present management capability. This requires an increased level of funding in order to cope with increased use levels. Includes resolution of legal access to the Glamis and Buttercup Valley areas, improved trash service in the Glamis/Gecko area and establishment of trash service in the Buttercup/Gordons Well area.

Level 3: Modest improvement in management capability. Includes resolution of legal access to Gordons Well and installation of toilets in the Glamis, Buttercup, and Gordons Well areas.

Level 4: Significant improvement in management capability. This is the funding level required to attain optimum distribution of recreational use within available Class I areas to alleviate safety and overcrowding problems anticipated in the mid-1990's, while improving resource protection. Level 4 includes resolution of legal access to Mammoth Wash.

Level 5: This is the funding level required to develop full OHV access within the Buttercup Valley Open Area (OHV crossing of I-8 and the All-American Canal), and maintain the highest level

of resource protection.

Management prescriptions are presented according to the management issues they help to resolve. With the exception of those Level 1 actions which are noted as representing a reduction in current management levels, management prescriptions are additive from one level to the next (i.e., Level 1 prescriptions apply to Level 2, etc.).

Table 7. GENERAL IMPLEMENTATION SCHEDULE

Funding Level	Implementation to be completed by the end of:
Level 1	(At time of funding cuts)
Level 2	1989
Level 3	1993
Level 4	1996
Level 5	1999

#### MANAGEMENT PRESCRIPTIONS

##### Issue 1 - Recreation Opportunities

Management Prescription	Issues Resolved
Level 1	
1-1. Enforce no parking rule on maintained roadways.	1a, 2b
Discussion: Parking space is at a premium in the dunes. In the past, visitors parked directly in the traffic lanes of paved roads, creating congestion and safety hazards. Recreation area rules now require that vehicles be parked with all tires off the paved road surface on BLM roads.	

- 1-2. Do not permit organized event start/finish/pit/staging areas along the Imperial Sand Dunes (Gecko) Road during the major use season (November 1-April 30). 1a, 2b

Discussion: Because camping space is at a premium and congestion is a problem along this road, priority is given to individual recreational users rather than organized events which tend to aggravate the problem.

- 1-3. Permit organized events at Glamis. 1a, 2b  
Require that start/finish/pit/staging areas be flagged and roped-off to prevent inadvertent public entry.

Discussion: The natural flat hard-surfaced pockets on the east side of the dunes provide camping space in relative abundance in the Glamis area. While camping space is not in as short supply as in the Gecko area, congestion and resulting safety problems do occur. These are effectively reduced when staging area boundaries are delineated.

- 1-4. Enhance non-OHV opportunities on a portion of the dunes system by enforcing the existing Algodones Natural Area vehicle closure. 1e

## Level 2

- 1-5. In conjunction with the access and site development programs, disperse use to available Class I areas by posting directional signs to alternative campsites/use areas. 1a, 2b

Discussion: Most congestion problems are the result of limited parking availability. BLM policy is to reduce congestion by developing additional parking facilities and improving access to existing hard-surfaced areas, thereby encouraging dispersal of camping use throughout available Class I areas. Directional signs will assist first-time visitors and visitors arriving at night in finding campsites.

- 1-6. Map all available camping areas in the recreation area brochure. 1a, 2b

Discussion: See discussion for 1-5 above.

- 1-7. Post and enforce the existing "first-come first-served" rule which prohibits roping off of campsites.

Discussion: California Desert District policy for use of recreational facilities has been "first-come first-served" for many years. In the past, BLM Rangers in the dunes took action to remove ropes and other barriers only if a complaint was received from a visitor who was denied access. However, the problem has grown dramatically in recent years, with some visitors roping off half or more of an 800 foot parking pad. The number of complaints has also risen sharply as a result of such abuses. The "first-come first-served" rule will therefore be posted and enforced uniformly throughout the dunes.

- 1-8. Through a Desert Plan Amendment redesignate the South Ogilby Dunes area from "Limited" to "Open" for OHV use. 1a, 12a

Discussion: Desert Plan policy is to designate sand dune areas as either "Open" or "Closed" for OHV use, regardless of multiple use class. This Class M dune area south of Interstate 8 and east of the All-American Canal is currently designated "Limited to existing routes." This is unmanageable, since it is difficult or impossible to define routes in a dune area. Redesignation as "Open" would be consistent with Desert Plan policy and existing use patterns.

OHV use of the area is low, and is expected to remain that way even with the change in designation. This is because the dunes in this area are small and lack the challenge of larger dunes to the west. Designation as "Open" would serve mainly to maintain recreational opportunities for visitors seeking to escape the congestion

of more heavily used areas.

- 1-9. Through a Desert Plan Amendment, reclassify Sec. 6, T. 12 S., R. 16 E., SBM, from "Unclassified" to "Class L" west of the Coachella Canal and "Class I" east of the Coachella Canal. 1a, 2b, 12a

Discussion: This section is located on the north side of Mammoth Wash, and is composed of sandy creosote bush flats. The portion east of the Coachella Canal is used as a camping area for users of the Mammoth Wash Open Area. Designation of the area as Class I will recognize existing use and will permit development of recreational facilities at Level 4 (prescriptions 6-34 through 6-38 and 8-10). Designation of lands west of the Coachella Canal as Class L is consistent with the designation of adjacent East Mesa lands.

- 1-10. Through a Desert Plan Amendment, redesignate Sec. 16, T. 12 S., R. 16 E., SBM, from "Undesignated" to "Limited" for OHV use west of the Coachella Canal and "Open" for OHV use east of the Coachella Canal. 1a, 1b 12a

Discussion: See discussion for prescription 1-9.

- 1-11. Provide information on hiking and other non-OHV opportunities in the recreation area brochure. 1e

Discussion: This is in response to a growing number of requests for information concerning non-OHV opportunities. Information will highlight visits to the Algodones Natural Area north of Highway 78 and other opportunities in low use areas of the dunes.

### Level 3

- 1-12. Post and develop a vehicle corridor along the old Coachella Canal to provide an OHV link between the Glamis/Gecko and Mammoth Wash areas. 1d

Discussion: There has been demand for an access corridor between these areas since closure of the corridor through the Algodones Natural Area in 1977. OHV use of the new Coachella Canal road and the Niland-Glamis Road are both illegal. The corridor will be established by signing existing routes along the west side of the abandoned old Coachella Canal.

- 1-13. Post and develop a hiker/equestrian trailhead along the Niland-Glamis Road north of Glamis. 1e

Discussion: The trailhead will consist of a cleared and leveled 100 x 100 foot parking area situated between the Niland-Glamis Road and Southern Pacific Railroad. A visitor information board and register will be provided, and BLM Rangers will patrol the site on a regular basis during the use season.

## Issue 2 - Safety/Emergency Services/Visitor Protection

Management Prescription	Issues Resolved
Level 1	
2-1. Continue to require BLM Rangers to obtain Emergency Medical Technician (EMT) training.	2h
Discussion: This is an existing requirement.	
2-2. Station BLM EMT personnel at Cahuilla Ranger Station as funds permit.	2h
Discussion: At the present level of funding, the ranger station is open and staffed with EMT personnel on major holiday weekends (approximately 20 days per year). However, because of funding limitations and the need to patrol other public lands in the El Centro Resource Area, the hours of Ranger Station operation were reduced from 16 hours per day (with personnel available all night on an emergency	

basis) to 8 hours per day on some holiday weekends in 1985 and 1986. Although every effort will be made to continue this service, it will no doubt become more difficult to maintain if the BLM budget sustains anticipated reductions.

If further reductions occur, BLM will first reduce the number of weekends the station is operated and then, as a last resort, discontinue ranger station operation. The County Sheriff is unable to assume operation of the station, because of County funding limitations. The net effect of Cahuilla Ranger Station closure on holiday weekends would be a significant deterioration of the existing emergency response capability within the recreation area.

- 2-3. BLM Rangers enforce State and Federal safety and equipment laws and requirements as time permits. 2c

Discussion: BLM Rangers enforce safety and equipment laws, but limited patrol time must first be allocated to the requirements of resource protection and emergency medical response. Accident prevention through equipment compliance checks will be done on an "as-available" basis under Level 1 funding.

- 2-4. BLM Rangers enforce State and Federal laws requiring vehicles and drivers to be licensed for highway use on all State, County, and BLM-maintained roads in the recreation area. 2c, 2e

Discussion: This is the current situation. However, with reduced funding at Level 1, enforcement of these safety laws and rules will be done on an "as available" basis after essential resource protection and emergency medical responses have been made.

## Level 2

In addition to the prescriptions listed here, see also

prescriptions 7-12, 7-13, 7-14, and 7-32.

- 2-5. BLM will co-sponsor ATV/desert safety workshops with the Imperial Dunes Patrol and other organizations. 2a

Discussion: Co-sponsored workshops will cover all aspects of desert safety, including ATV operation, desert survival, hazardous wildlife species, unexploded military ordnance, and other safety topics.

- 2-6. Enforce safety and vehicle equipment requirements at all organized events under BLM permit. 2c

Discussion: This is current BLM policy. Monitoring to insure compliance will occur at 100% of authorized events.

- 2-7. Set up periodic checkpoints to check OHVs for Green Stickers and required safety equipment. 2c

Discussion: Checkpoints will be periodically established to check OHVs as they are brought into the recreation area at the beginning of the weekend or holiday period.

- 2-8. Enhance visibility of OHVs in the dunes by establishing a supplementary rule requiring flexible whip masts equipped with flags (daytime) or lights (night). 2d

- 2-9. Post signs at all major camping areas informing OHV users of the whip mast requirement. 2d

- 2-10. Enforce the whip mast requirement. 2d

Discussion: Enforcement will occur at checkpoints periodically established at entry points into the recreation area and as time permits during Ranger patrols. See prescription 7-11 for Ranger functional priorities.

- 2-11. Establish a 15 mph speed limit on the sand highways which parallel Highway 78 and the Imperial Sand Dunes (Gecko) 2e

Road.

Discussion: State law establishes the 15 mph speed limit near all dwellings or occupied sites. Prescriptions 2-11 through 2-14 apply this existing law to major zones of user concentration.

- 2-12. Establish a 15 mph speed limit on the dirt access road paralleling the railroad south of Glamis. 2e
- 2-13. Post 15 mph signs a) along the sand highways, b) the dirt road south of Glamis, and, c) in all areas of concentrated camping use. 2e
- 2-14. Enforce the 15 mph speed limit in the areas detailed in prescriptions 2-11 through 2-13. 2e
- 2-15. After the beginning of regular maintenance on the dirt road south of Glamis (see prescription 6-12), post the maintained segment as limited to vehicles and drivers licensed for highway use. 2e

Discussion: The maintained section will be considered a "highway" under State law. This is to eliminate safety problems caused by use of the same road by large RVs and much smaller OHVs, and to reduce maintenance costs by limiting development of "whoop-de-dos" on the road.

- 2-16. Establish a supplementary rule prohibiting use of glass beverage containers in the recreation area. 2f

Discussion: The rule should slow the alarming increase in broken glass in major camping areas. The rule is restricted to beverage containers in recognition of the fact that these are the type of containers most often discarded in the dunes, and also because many other types of food products are not readily available in containers other than glass.

- 2-17. Post signs informing the public of 2f

the "no glass beverage bottle" rule  
at all concentrated camping use areas.

- 2-18. Coordinate with the California Department of Transportation (Caltrans) and the California Highway Patrol to reduce dangerous OHV crossings of Interstate 8 at Buttercup. 2g

Discussion: In the short term, actions will include removal of the Sand Hills Rest Area (approximately 1990) and placement of special barriers in problem areas. Long term resolution of the problem involves establishing an OHV overcrossing of Interstate 8 (prescriptions 6-32 and 6-33).

- 2-19. Station BLM EMT/Recreation personnel at Cahuilla Ranger Station during every weekend and holiday period between November 1 and Memorial Day (approximately 80 days per year). 2h

Discussion: See related prescriptions 7-12 and 7-14.

- 2-20. Develop a coordinated interagency safety plan with the Imperial County Sheriff's office, the California Highway Patrol, equipment manufacturers, user organizations, and ambulance services, with the dual aim of accident prevention and coordinated emergency response when accidents occur. 2i

Discussion: This plan will direct and focus the overall effort to reduce accidents in the dunes. It will recognize that no single agency or group can, by itself, resolve the accident problem. User organizations and manufacturers will concentrate on accident prevention through public education. Ambulance services and law enforcement agencies will work to further improve excellent cooperation that already exists in the area of emergency response.

### Level 3

See prescriptions 6-6, 6-25, 7-15, 7-16, and

and 7-34.

#### Level 4

See prescriptions 6-38, 7-17, 7-18, and 7-35.

### Issue 3 - Resource Protection

#### Management Prescriptions

#### Issues Resolved

#### Level 1

See also prescriptions 7-1, 7-2, and 7-11.

- 3-1. The Ogilby campsite will remain open for public use, but no site development actions which would encourage public use will be undertaken. 3g, 4c

Discussion: This is in keeping with Desert Plan guidelines for Class L. Use of the site is currently at the low to moderate level specified by Class L guidelines. Monthly monitoring of the adjacent WSA indicates that impairment of wilderness suitability is not occurring at the present use level. Use of this site and resulting impacts will be monitored. If, through future monitoring, it is determined that use is creating impacts inconsistent with Class L and WSA IMP guidelines, appropriate actions will be taken to restrict use of the site. At Level 1 (reduced funding), both resource and recreational use monitoring will be largely limited to periodic patrols by BLM Rangers. If funding declines to the point where the site can no longer be effectively patrolled, BLM could be forced to close it. Enforcement of the closure would, however, be difficult at Level 1 because it would require a greater Ranger presence than that required to monitor use.

- 3-2. In accordance with Desert Plan multiple-use class guidelines, allow no organized vehicle event start/finish/staging/pit areas in Class L. 3g, 4c

Discussion: This precludes use of Ogilby and all other Class L areas for these purposes, which tend to attract concentrations of users inconsistent with Class L.

- 3-3. In accordance with Desert Plan multiple-use class guidelines, consider organized vehicle events in Class L only after carefully analyzing the possible impacts to sensitive resources through an environmental assessment prepared for the specific event. Although Class L in the dunes is designated "Open," proposed competitive event courses must still be carefully delineated, evaluated through an environmental assessment, and approved for use in order to avoid sensitive plant and wildlife habitat. 3, 4

Discussion: This is consistent with Class L guidelines. No events have taken place in the Class L portion of the dunes since 1979. Because of the high level of public interest and controversy surrounding the Class L portion of the dunes, and because much of the Class L area is in a WSA status, public notification and review of the environmental assessment for proposed competitive events would be mandatory. This would necessitate an event application date much earlier than the usual 120 days prior to the proposed event date, in order to allow environmental analysis of the proposed course, and to permit public review. The actual application date would be determined in part by the course proposed and amount of Class L involved.

Since significant detailed environmental studies of proposed courses would be required, applicants would be required to reimburse BLM for the cost of the environmental assessment with no guarantee that the event would be approved. At Level 1, consideration of an event would also be heavily dependent on the availability of BLM staff to administer the application process and conduct the necessary studies and compliance checks.

- 3-4. Post areas closed to vehicles with a maximum interval between signs of 1/4 mile (1,320 feet). 3f, 4c

Discussion: This is the current maximum interval. The interval is less in heavy-use areas.

## Level 2

See also prescriptions 7-3 and 7-4.

- 3-5. Post additional signs along the boundaries of areas closed to vehicles in order to reduce the maximum interval between signs to 1/8 mile (660 feet). 3f, 4c

- 3-6. Implement the Plank Road Area of Critical Environmental Concern (ACEC) Management Plan. 3d, 3e, 3f, 3g

Discussion: This plan, completed in 1985, proposes a number of measures to protect and interpret the historic Plank Road. Measures include fencing, partial restoration of a road segment, interpretive signs, a brochure, periodic photo monitoring, patrol and other actions.

- 3-7. Prepare an Imperial Sand Dunes Habitat Management Plan (HMP) in FY 1987 in order to coordinate sensitive plant and wildlife baseline data studies and monitoring programs. The HMP will also establish procedures for defining impact thresholds based on the results of baseline data studies, and for determining protective management actions as may be needed in response to the results of monitoring studies. 3a, 3b, 3c

Discussion: The baseline data study and monitoring programs outlined in the following management prescriptions will (with the exception of cultural resources studies) be implemented in conjunction with the HMP. The Bureau made a commitment to closely monitor the effects of recreational use of the Class L portion of the dunes when the decision was made to designate Class L as "Open" for

OHV use.

Since 1980, the central dunes have been monitored with periodic Ranger patrols as well as recreation and wilderness monitoring overflights. These efforts have confirmed that use occurs at very low levels in the central dunes and that wilderness suitability has not been impaired by the use that has occurred. The proposed studies will enhance the existing monitoring effort by providing data from which the status of individual sensitive species can be more accurately assessed.

Appendix A identifies specific RAMP management prescriptions which will not be implemented until baseline studies have been completed and a program of monitoring studies is under way. This will allow the status of sensitive species and potential impacts to be more accurately assessed prior to final decisions to implement those prescriptions.

- 3-8. Initiate Level 2 baseline data studies as listed in Appendix A. 3a

Discussion: Level 2 baseline data studies concentrate on the secondary dunes and eastern margin of the dunes in WSA 362, as well as the adjacent Pilot Knob Mesa area. The eastern side of the dune system represents the prime habitat for deer, Andrews dune scarab beetle, and flat-tailed horned lizard. Fringe-toed lizard surveys will be conducted throughout the Class L portion of the dunes. WSA 362 and the Class L area will receive this early emphasis because this is the area of greatest potential conflict between recreational use and sensitive resources. By gathering baseline data in this area during Level 2, a monitoring program can be in place by the time site developments occur at Buttercup Valley, Grays Well, and Gordons Well during Level 3. Appendix A lists the specific development projects which will require completion of these baseline studies prior to implementation. Cultural

inventories will not be done within the dune system because of the general lack of cultural resources.

- 3-9. Initiate Level 2 monitoring studies as listed in Appendix A. 3b

Discussion: Level 2 resource monitoring studies also concentrate on WSA 362 and Class L. Whereas Level 2 baseline data studies are directed toward wildlife, Level 2 monitoring is directed primarily toward plant species, for which baseline data is already available (from the 1977 study).

- 3-10. Monitor recreational use throughout the dunes system through a program of visitor count overflights to be conducted every three years. 3b

Discussion: Visitor count overflights are the most accurate way to monitor recreational use in this large recreation area with numerous access points, but aerial counts are costly. To gather statistically significant data, approximately 26 flights per year are required. A program of flights is therefore proposed for every third year, augmented in the intervening years with traffic counter monitoring.

- 3-11. Install traffic counters on: a) the Imperial Sand Dunes (Gecko) road, b) the Grays Well (Buttercup) Road, c) the dirt access road to the Ogilby campsite, d) the dirt access road paralleling the railroad south of Glamis, and e) the Gordons Well access road. 3b

Discussion: These counter locations represent the primary access points to the recreation area. By obtaining both flight and counter data the first year, the counters can be calibrated to the actual count information obtained from the flights. Subsequent flight data every third year will serve to identify shifts in use patterns, while the counters will provide information only on use levels (numbers).

- 3-12. Monitor traffic counters once a month. 3b

### Level 3

See also prescriptions 7-5 and 7-6.

- 3-13. Initiate Level 3 baseline data studies as listed in Appendix A. 3a

Discussion: Level 3 baseline data studies concentrate on WSA 360 (the Algodones Natural Area). Once again, species to be studied are primarily wildlife species, since plant data is already available.

Desert tortoise, mule deer, fringe-toed lizard, and Andrews dune scarab beetle will be emphasized. These Level 3 studies will provide the baseline for monitoring during Level 4, when development of the Mammoth Wash area is proposed.

- 3-14. Initiate Level 3 monitoring studies as listed in Appendix A. 3b

Discussion: Level 3 monitoring studies represent a continuation and expansion of the sensitive plant monitoring program begun at Level 2 and the beginning of on-going monitoring of wildlife species in WSA 362 and Class L, utilizing the baseline data developed at Level 2.

- 3-15. Post additional signs along the boundaries of areas closed to vehicles in order to reduce the maximum interval between signs to 300 feet. 3f, 3g, 4c

### Level 4

See also prescriptions 7-7 and 7-8.

- 3-16. Maintain monitoring studies listed for Level 4 in Appendix A. 3b

Discussion: By Level 4, all baseline studies will have been completed, and a full monitoring program will be imple-

mented throughout the recreation area.

- 3-17. Install a traffic counter on the newly constructed Montgomery Road extension to Mammoth Wash. 3b

Discussion: This expands the program begun with prescription 3-11.

#### Level 5

See also prescriptions 7-9 and 7-10.

- 3-18. Maintain monitoring studies listed for Level 5 in Appendix A. 3b

Discussion: Level 5 monitoring studies represent the continuation of the program fully implemented at Level 4.

### Issue 4 - Protection of Wilderness Suitability

#### Management Prescriptions

#### Issues Resolved

#### Level 1

See also prescriptions 7-1, 7-2, and 7-11.

- 4-1. Evaluate all proposed management actions within or near WSAs to insure compliance with Section 603 of FLPMA and BLM's Interim Management Policy and Guidelines for Lands Under Wilderness Review (IMP). 4

Discussion: This is current policy. All proposed management actions within or near WSAs must be evaluated to determine if the action will meet the "nonimpairment criteria," specified in Appendix B.

- 4-2. Conduct monthly WSA monitoring overflights. 4

Discussion: This is the current practice. Because protection of wilderness suitability is a BLM priority, funding for monthly monitoring flights is expected to continue even in the event of Level 1 funding reductions. Whenever possible, WSA monitoring flights are integrated with

visitor monitoring flights (prescription 3-10) to reduce costs.

## Level 2

See also prescriptions 5-4, 5-6, 7-3, and 7-4.

- 4-3. Incorporate a message about wilderness resources and the need for their protection in the sensitive resources interpretive signs to be installed at Osborn Park and Roadrunner Campground (See 5-6). 4a

Discussion: These signs will make the public more aware of the location of WSAs, especially WSA 362, and will explain the need for special care to protect suitability.

- 4-4. Show WSA boundaries on the map in the recreation area brochure. 4a

Discussion: See discussion for prescription 4-3.

- 4-5. Install a barricade at the southern terminus of the former OHV corridor through the Algodones Natural Area (WSA 360) in order to reduce closure violations. 3f, 4c

- 4-6. Install a fence or barricade along one mile of the boundary of the Algodones Natural Area (WSA 360) near Glamis in order to reduce closure violations. 3f, 4c

Discussion: Closure violations are a particular problem along the Class I - Class C boundary north of Highway 78 west of Glamis. These Class I lands are intensively used as a camping and OHV staging area. Although the boundary is well signed, a physical barrier is necessary to effectively end closure violations.

## Level 3

See also prescriptions 5-15, 5-16, 7-5, 7-6.

- 4-7. Incorporate a message about wilderness resources and the need for their protec-

tion in the sensitive resources interpretive signs to be installed south of Glamis and at Dune Buggy Flats (See 5-16).

#### Level 4

See prescriptions 7-7 and 7-8.

#### Level 5

See prescriptions 7-9 and 7-10.

### Issue 5 - Public Contact and Interpretation

Management Prescription	Issues Resolved
Level 1	
5-1. Reprint the recreation area brochure as needed.	5d
5-2. Distribute the recreation area brochure and manufacturer's equipment safety brochures through BLM Rangers, the BLM maintenance worker, and at Cahuilla Ranger Station.	5d
Level 2	
5-3. Emphasize resource protection and safety themes in all interpretive programs.	5a, 5b
Discussion: These are the two major interpretive themes identified through the public workshops and workbook responses, as well as by BLM management.	
5-4. Establish the Osborn Park lookout as an interpretive site.	2a, 3d, 5a, 5b, 5c
Discussion: The Osborn Park lookout affords the best view of the dune system accessible to two-wheel drive vehicles. Visitors to the site can see many miles in every direction, into the Algodones Natural Area (WSA 360) to the north, the	

Glamis/Gecko Open Area to the south, west beyond the dune system to the East Mesa, and east to the Chocolate Mountains, Cargo Muchacho Mountains, and Picacho Peak. It is a logical point for the development of interpretive signs with a wide variety of themes. See also related prescription 9-2.

- 5-5. Following completion of alternate camping facilities at Roadrunner Campground, convert the Osborn Park parking area to a day-use facility. 1a, 1e, 3f, 3g

Discussion: Because of the shortage of camping space in the recreation area, the Osborn Park lookout is frequently so crowded with campers that day users and highway travelers are unable to use the scenic viewpoint. Closure of the Osborn parking lot to camping will make the interpretive site available to all segments of the public. This action, combined with construction of Roadrunner Campground and grading of the access road to campsites south of Glamis, is consistent with the longstanding BLM policy of redistributing camping use away from the Algodones Natural Area and Highway 78, and into the Class I area.

- 5-6. Install interpretive signs dealing with the theme of sensitive resources and the need for their protection at: a) the Old Plank Road, b) near the boundary of WSA 360 at Osborn Park, and c) near the boundary of WSA 362 at Roadrunner Campground. 3d, 4b, 5a

Discussion: Interpretive signs require periodic maintenance and protection from vandalism. Installation of signs and other interpretive facilities at each funding level is tied to BLM's ability to protect and maintain them. Signs will be added in other areas as this ability improves in those areas (see prescriptions 5-16 through 5-21).

- 5-7. Install interpretive signs emphasizing safe OHV operation at: a) Roadrunner 2a, 5b

Campground, b) Gecko Campground.

- 5-8. Install brochure boxes at: a) Gecko Campground, b) Roadrunner Campground, and c) Osborn Park. 5d

- 5-9. Install an interpretive sign incorporating the theme of multiple-use management of public lands at Osborn Park. 5

- 5-10. Update the recreation area brochure at the time of republication to incorporate the various needed changes (i.e., show WSA boundaries on map, etc.) as identified in other parts of this plan. 5d

- 5-11. Keep the Cahuilla Ranger Station open every winter weekend between November 1 and Memorial Day to provide brochures, maps, and an opportunity to ask questions directly to a BLM employee. 5e

Discussion: See related prescriptions 2-19, 7-12, and 7-14.

- 5-12. Improve brochure distribution throughout the dunes by utilizing the volunteer Dunes Patrol and new BLM Recreation Technicians to distribute brochures at campsites. 5d

Discussion: See related prescriptions 7-12, 7-14, and 7-32.

- 5-13. BLM Recreation Technicians and volunteer Dunes Patrol members will place a special emphasis on taking time to visit with users at their campsites in order to both provide information and to keep in touch with user needs and concerns. 5e

- 5-14. BLM Recreation Technicians will each present a minimum of three special evening programs per year in the Gecko, Glamis, or Buttercup areas. 5e

Discussion: Special evening programs afford an opportunity to discuss important topics more fully than can occur in day-to-day contact. If the programs are successful during the trial season, the

schedule will be expanded to include more programs as time permits.

### Level 3

See also prescriptions 7-15 and 7-34.

- 5-15. Develop a brochure which deals with the sensitive plant and wildlife resources of the dunes, the need for their protection, and things the individual dunes user can do to help in the protection effort while enjoying the dunes. 5d
- 5-16. Install interpretive signs dealing with the theme of sensitive resources and the need for their protection: 3d, 4b, 5a  
a) near the boundary of WSA 362 on the graded dirt road south of Glamis, and  
b) in the Dune Buggy Flats (Gordons Well) area.
- Discussion: See discussion for prescription 5-6.
- 5-17. Install interpretive signs emphasizing safe OHV operation at: a) camp areas south and west of Glamis, b) Buttercup Valley, c) Grays Well (Plank Road), and d) Dune Buggy Flats. 2a, 5b
- Discussion: See discussion for prescription 5-6.
- 5-18. Install brochure boxes at a) the camping area west of Glamis, b) the camp areas south of Glamis, c) Buttercup Valley, d) Grays Well, and e) Gordons Well. 5d

### Level 4

See also prescriptions for 7-17 and 7-35.

- 5-19. Install a brochure box at the Mammoth Wash campsite. 5d
- 5-20. Install interpretive signs emphasizing safe OHV operation at Mammoth Wash. 2a, 5b

- |   |               |
|---|---------------|
| 5-21. Install interpretive signs with the theme of sensitive resources and the need for their protection at Mammoth Wash. | 3d, 4b,<br>5a |
|---|---------------|

## Issue 6 - Facility Development

### 1. Gecko Area (See Map 5)

#### Management Prescriptions

#### Issues Resolved

##### Level 1

All Gecko area projects prescribed below at Level 2 are currently approved State OHV projects. Implementation of these projects is contingent upon the continuation of the current BLM operations and maintenance budget, as well as supplemental State OHV Fund support for operations and maintenance. If Level 1 cuts to the BLM budget occur, a careful analysis of operations and maintenance capability will be required before the currently authorized projects can be implemented at Level 1. If BLM's ability to operate and maintain the new facilities were to be seriously impaired by budget cuts, a decision to defer or cancel the projects would be required. At best, only State OHV projects currently authorized would be constructed at Level 1. At worst, currently authorized projects would be cancelled and no new development would occur at Level 1.

##### Level 2

- |  |               |
|--|---------------|
| 6-1. Construct Roadrunner Campground at the south end of the Imperial Sand Dunes (Gecko) Road. | 1a, 1b,<br>6d |
|--|---------------|

Discussion: This is an approved State OHV project scheduled for implementation in 1987.

- |  |        |
|--|--------|
| 6-2. Maintain the existing contract trash station north of Gecko Campground, and add a trash station at Roadrunner Campground. | 6a, 7d |
|--|--------|

Discussion: These are State OHV projects approved through the 1988-89 season.

# MAP 5

## PROPOSAL LEGEND

FUNDING LEVEL

8-VAULT TOILET UNIT

CONTRACT TRASH STATION

PUBLIC TELEPHONE

DRINKING WATER

DUMP STATION

BRIDGE

PARKING PAD

Existing

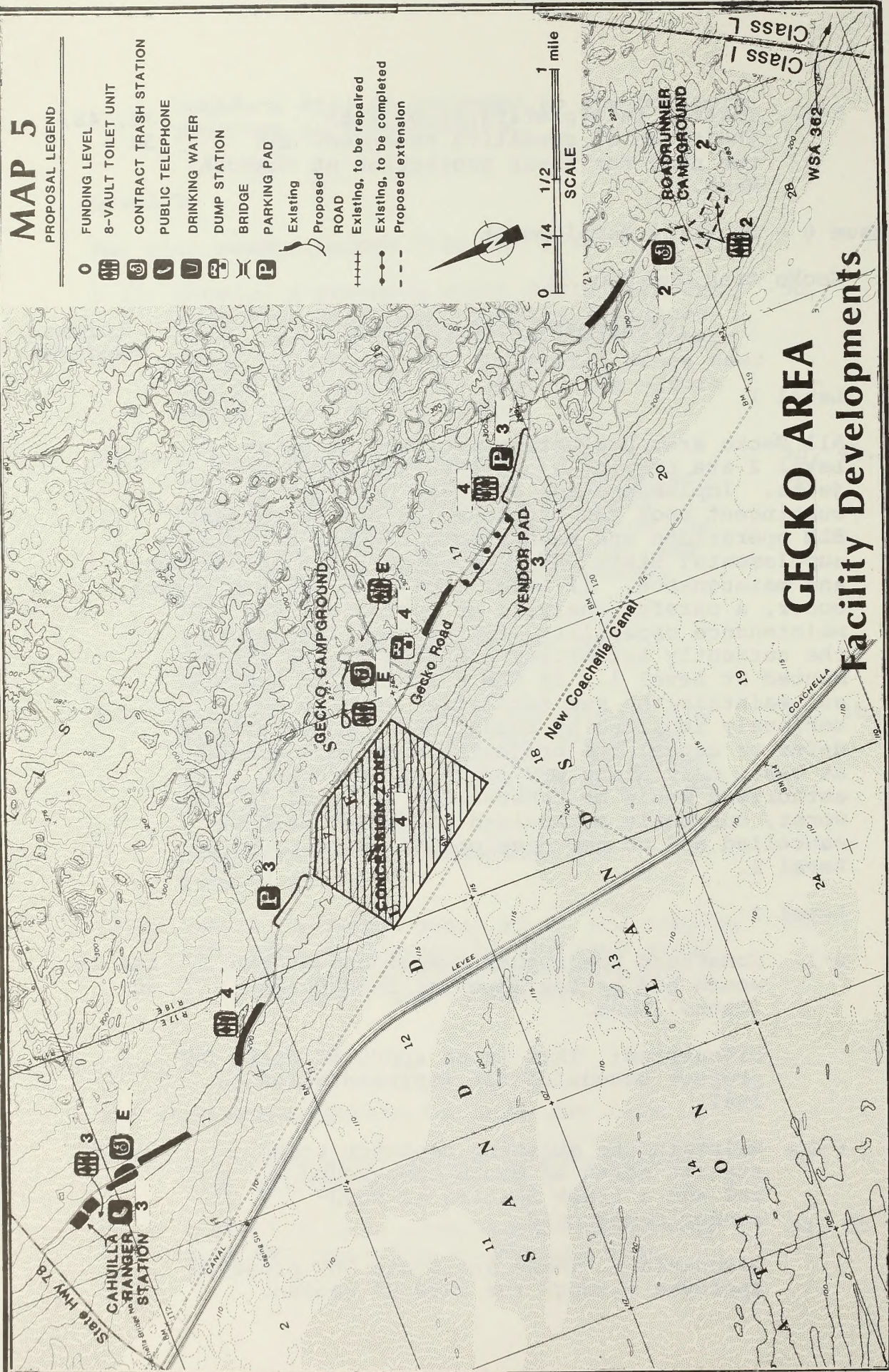
Proposed

ROAD

Existing, to be repaired

Existing, to be completed

Proposed extension



## GECKO AREA Facility Developments

Contract trash stations consist of a 40-cubic yard transfer container (supplemented with a second 40-cubic yard container on high-use weekends) and an access ramp to allow the public to deposit trash into the 8-foot high containers. These facilities are placed in a short-term parking area with appropriate identifying signs. The containers are emptied weekly by a contractor and removed during the summer off season. The large containers placed at a central point are a low-cost alternative to many small containers at many locations.

- 6-3. Enlarge the Cahuilla Ranger Station compound to incorporate: a) a storage building for Dunes Patrol ATVs and other equipment, and b) parking space and utility hookups for two trailers (each up to 10 feet by 50 feet), one to be used as a residence for BLM EMT/Recreation Technicians, the other to be provided by Dunes Patrol members for Dunes Patrol use. 2h, 7g

Discussion: This is an approved State OHV project scheduled for implementation in 1987. See related prescriptions 2-19, 5-11, 5-12, 5-13, 5-14, 7-12, and 7-32.

- 6-4. Pave the public parking area at Cahuilla Ranger Station. 6a, 6d

Discussion: This is an approved State OHV project scheduled for implementation in 1987.

### Level 3

- 6-5. Add a second public restroom at the Cahuilla Ranger Station parking lot. 6a, 6d

Discussion: A single-vault public restroom was installed at the parking lot in 1986. It has become popular with the many OHV riders who pass by the station. A second restroom will eventually be necessary to handle the volume. While many dunes users camp in self-contained RVs, restrooms such as this one are needed for the thousands of persons who have need of

facilities while riding at some distance from their base camp. With anticipated use increases, a significant sanitation problem will be created if adequate toilet capacity is not provided.

- 6-6. Install a public telephone at the Cahuilla Ranger Station parking lot. 2h, 6i

Discussion: This is needed to improve emergency response at times when the Ranger Station is closed. Although the station will be open every winter weekend beginning with the 1987-88 season, there will be occasional periods (notably late at night or on weekdays) when the facility is closed. The phone will be a vital link with emergency services at such times. The nearest phone line is seven miles from the station. Implementation phasing will depend in part on projected installation of a new buried phone line along Highway 78, expected about 1989 or 1990.

- 6-7. Construct approximately 100,000 square feet of additional gravel camping pads along the Imperial Sand Dunes (Gecko) Road. 1a, 1b, 2b, 6d

Discussion: Two new pads, each 50 feet by 1000 feet are proposed, one north and one south of Gecko Campground.

- 6-8. Construct a 50,000 square-foot vendor pad on the west side of the Imperial Sand Dunes (Gecko) Road between Gecko and Roadrunner Campgrounds. 8a

Discussion: Most vendor activity to date has been in the Glamis area, where adequate natural hard surfaced area is available. However, the primary need for vendor services is in the Gecko/Roadrunner area since food and supplies are already available from private businesses at or near Glamis. The new vendor pad will allow vendors to set up shop in the Gecko/Roadrunner area without displacing campers from available parking, which is

in short supply. Revenue generated from vendor permits will be utilized to defray the cost of construction. See related prescriptions 8-1, 8-2, and 8-5.

#### Level 4

- 6-9. Construct two additional 8-vault toilet units along the Imperial Sand Dunes (Gecko) Road. 6d

Discussion: These and other new toilet units called for in this plan will utilize the design, color, and architectural style of the existing 8-vault units at Gecko Campground. One will be installed approximately two miles north of Gecko Campground, the other about a mile south, near existing parking pads.

- 6-10. Construct a four-bay sanitary dump station along the Imperial Sand Dunes (Gecko) Road. 6f

Discussion: This facility will be located near Gecko Campground. It will either be constructed and maintained by BLM or by a concessioner. See related prescription 8-8.

## 2. Glamis Area (see Map 6)

### Management Prescriptions

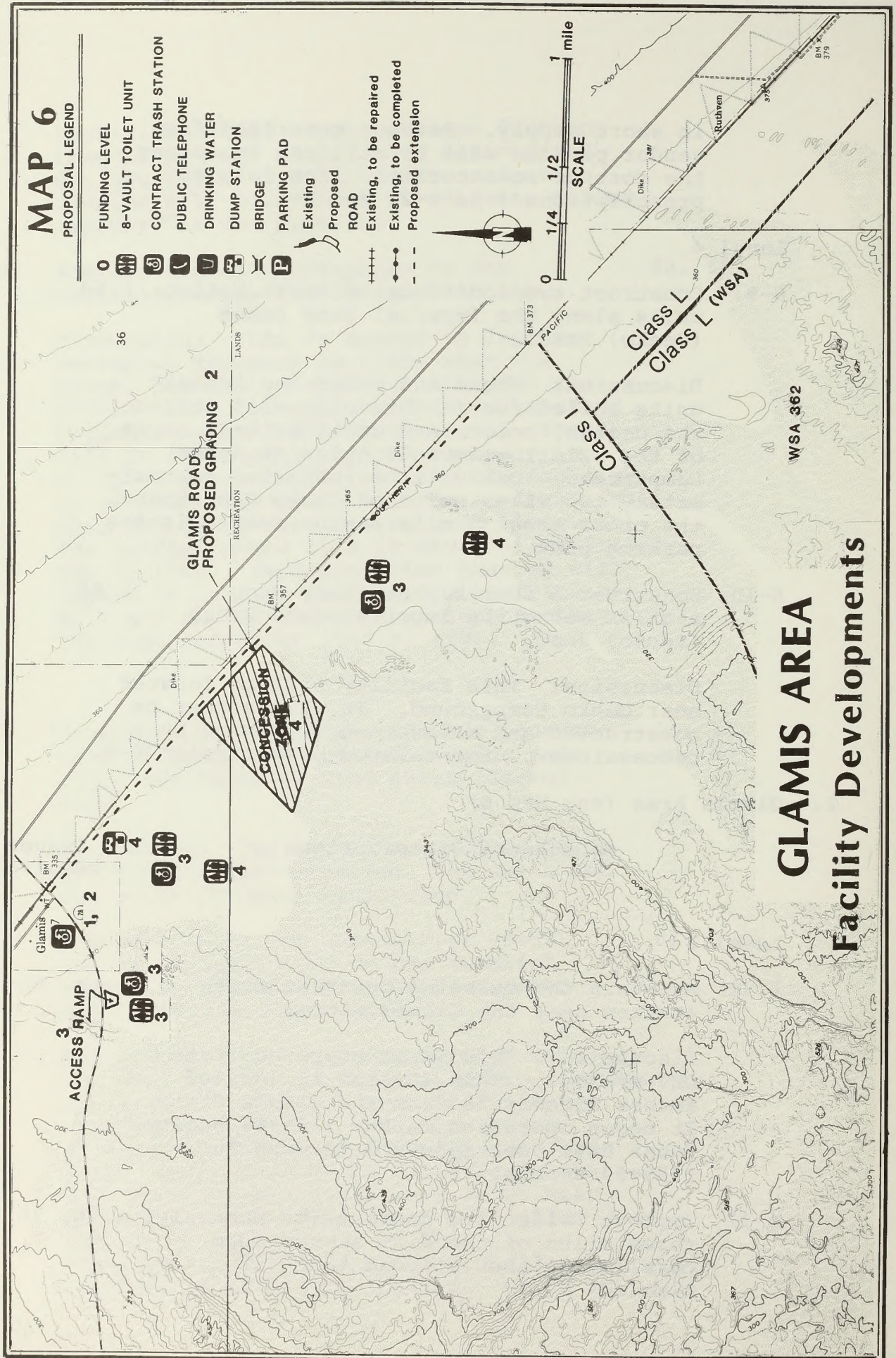
### Issues Resolved

#### Level 2

- 6-11. Maintain the existing contract trash station near the Glamis Store. 6a, 6c

Discussion: This is an approved State OHV project. This station is located across Highway 78 from the Glamis Store. It began operation in the 1985-86 season. Funds have been approved through the 1989-90 season.

- 6-12. Improve (widen and grade twice annually) three miles of the dirt access road paralleling the railroad south of Glamis. 6h, 7b



Discussion: This road provides primary access to the major campsites in Class I south of Glamis. It is very rough from years of heavy use and no maintenance. The road is on private property and railroad right-of-way. See related prescription 9-1.

### Level 3

- 6-13. Construct two 8-vault "Gecko-style" toilet units in major camping areas south of Glamis. 6c

Discussion: These will be located in the natural hard-surfaced pockets accessible from the road maintained in prescription 6-12.

- 6-14. Construct an access ramp from Highway 78 to the major camping area west of Glamis. 6h

Discussion: Access to this site west of the sand drag strip is currently across private property at the Glamis Store. Construction of a ramp from Highway 78 directly into the area will provide more convenient legal access and reduce safety problems caused by RVs and OHVs sharing the bumpy access route along the north side of the sand drag strip.

- 6-15. Construct one 8-vault toilet unit in the major camping area west of Glamis. 6c

Discussion: This will be located in the flat just west of the sand drag strip.

- 6-16. Relocate the existing contract Glamis trash station from the Glamis Store to the major camping area west of Glamis. 6c

Discussion: The central station at Glamis will become inadequate to handle the volume of trash by 1990. This move, combined with establishment of two new stations south of Glamis (6-17) will bring the stations to the sources of

trash on public lands. It will be made possible by the new access ramp, which will allow trash trucks to reach the site.

- 6-17. Establish two additional contract trash stations at major camping areas south of Glamis. 6c

Discussion: See discussion for 6-16. Grading of the access road (6-12) will make possible delivery of trash containers to the sites.

#### Level 4

- 6-18. Construct two additional 8-vault toilet units in the Glamis area. 6c

Discussion: With anticipated increases in use by the mid-1990s, additional toilets will be needed. Development of a concession campground (8-9) might reduce or eliminate the need for construction of these facilities by BLM.

- 6-19. Construct a four-bay sanitary dump station in the Glamis area. 6f

Discussion: Again, development of a concession campground (8-9) might eliminate the need for construction of these facilities by BLM.

### 3. Buttercup Area (See Map 7)

NOTE: The California Department of Transportation (CalTrans) will construct a new Sand Hills Interchange just east of the current Sand Hills Freeway Rest Area in 1988 or 1989 (late Level 2). This will be a complete overpass interchange permitting access to the freeway from both directions. The existing "one-sided" Grays Well Road exits will be removed at that time.

Management Prescriptions	Issues Resolved
Level 1	

At Level 1 (reduced funding) prescriptions 6-20 and 6-23 would be implemented, but no other development would take place in the Buttercup area.

Level 2

- |  |    |
|--|----|
| 6-20. Complete the Buttercup Valley Access Road (Grays Well Road extension) east to the site of the proposed Sand Hills Interchange. | 6h |
|--|----|

Discussion: This is an approved State OHV project scheduled for implementation in 1987. The road was constructed with a temporary gravel surface in 1986. Completion will involve some additional grading and embankment work and paving the road. The finished road will permit public access to the Plank Road area from the new Sand Hills Interchange.

- |  |    |
|--|----|
| 6-21. Repair the existing Grays Well Road. | 6h |
|--|----|

Discussion: This work involves rebuilding road shoulders and repaving the existing Grays Well Road in the Plank Road area. The road is in an advanced state of deterioration. An application for State OHV funds to accomplish this work was turned down by the State in 1985..

- |  |                   |
|--|-------------------|
| 6-22. Construct approximately 100,000 square feet of new gravel camping pads on the south side of the Grays Well Road. | 1a, 1b,<br>2b, 6b |
|--|-------------------|

Discussion: These pads will be constructed at various locations along the Grays Well Road in the dunes east of the Plank Road interpretive site. An application for State OHV funds to accomplish this work was turned down by the State in 1985.

- |   |        |
|---|--------|
| 6-23. Establish contract trash stations at:<br>a) Buttercup Valley, b) Grays Well,<br>and c) Gordons Well (Dune Buggy Flats). | 6b, 7d |
|---|--------|

Discussion: These are approved State

# MAP 7

## PROPOSAL LEGEND

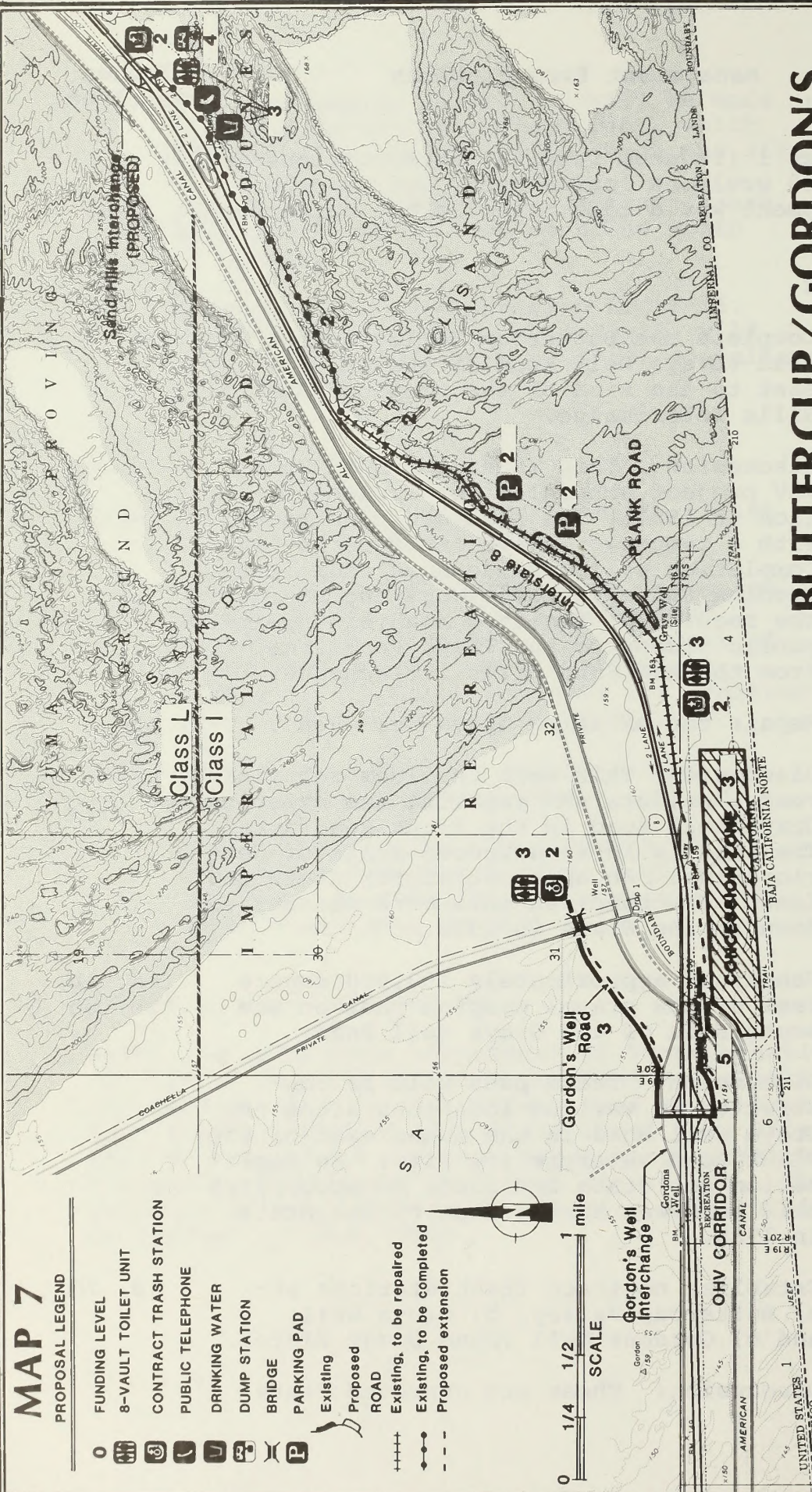
- |   |                        |      |                           |
|---|------------------------|------|---------------------------|
| 0 | FUNDING LEVEL          | ++++ | Existing, to be repaired  |
| 1 | 8-VAULT TOILET UNIT    | —●—  | Existing, to be completed |
| 2 | CONTRACT TRASH STATION | ---  | Proposed extension        |
| 3 | PUBLIC TELEPHONE       |      |                           |
| 4 | DRINKING WATER         |      |                           |
| 5 | DUMP STATION           |      |                           |
| 6 | BRIDGE                 |      |                           |
| 7 | PARKING PAD            |      |                           |
| 8 | Existing               |      |                           |
| 9 | Proposed               |      |                           |

ROAD

- |      |                           |
|------|---------------------------|
| ++++ | Existing, to be repaired  |
| —●—  | Existing, to be completed |
| ---  | Proposed extension        |



SCALE  
0 1/4 1/2 1 mile



## BUTTERCUP/GORDON'S WELL AREA

Facility Developments

OHV projects with funding for two years beginning with the 1987-88 season.

Level 3

- 6-24. Pipe drinking water from the well at the Sand Hills Rest Area under Interstate Highway 8 to the Buttercup camping area. 6b

Discussion: The Sand Hills Rest Area, which is located in the freeway median at Buttercup Valley, will be removed by Caltrans in the late 1980s in order to reduce safety hazards caused by recreational users crossing the freeway on OHVs to access the facilities. This prescription as well as 6-25 and 6-26 will serve to move the facilities at the rest area to the south side of the freeway where they will be directly accessible to campers.

- 6-25. Install a public telephone at the Buttercup camping area south of Interstate 8. 2h, 6i

Discussion: See the discussion for 6-24. The telephone is an important communication link between sand dunes users and emergency medical and law enforcement services.

- 6-26. Construct an 8-vault toilet unit at the Buttercup camping area south of Interstate 8. 6b

Discussion: See discussion for 6-24.

- 6-27. Construct an 8-vault toilet unit at the Grays Well (Plank Road) camping area. 6b

Discussion: This will be located on the north side of Grays Well Road near the Plank Road interpretive site, and will serve both area campers and day-use visitors to the Plank Road.

- 6-28. Construct a new 1/2 mile paved access road and bridge over the Coachella Canal to provide access from the 1a, 2b, 6g, 6h

Gordons Well Interchange to the Dune Buggy Flats area.

Discussion: The existing gravel road and bridge are property of the Coachella Valley Water District. Although the road and bridge have been left open since 1981, they are posted "No Trespassing." For liability reasons, the water district will not grant BLM an access easement using these facilities. The existing road and bridge could be closed at any time. The new bridge will be wider and safer than the narrow water district bridge, and will provide a separate lane for OHV traffic (see 6-31, 6-32, and 6-33).

- 6-29. Construct an 8-vault toilet unit at the Dune Buggy Flats (Gordons Well) camping area. 6b

Discussion: This toilet unit will be located east of the Coachella Canal near the center of Dune Buggy Flats. This facility can be developed only after legal access has been acquired (see prescriptions 6-28 and 9-5).

#### Level 4

- 6-30. Construct a four-bay sanitary dump station in the Buttercup area. 6f

Discussion: Development of a concession facility at Grays Well (prescription 8-7) may eliminate the need for BLM to develop this facility.

#### Level 5

- 6-31. Extend Grays Well Road west one mile to the Gordons Well Interchange, constructing a new bridge over the All-American Canal. 6g, 6h

Discussion: This bridge and road will complete development of access to the Buttercup and Grays Well areas. With completion of this project, the Grays Well Road will be linked to the freeway at both ends with full overpass interchanges

allowing traffic to access the freeway in either direction at either end of the road. This will especially improve access for users coming from San Diego and El Centro, who will no longer have to drive east to the Sand Hills Interchange in order to go back to Grays Well. This bridge will also incorporate a lane to allow OHV access across the All-American Canal.

- 6-32. Establish the Gordons Well overpass as a "designated segment" for OHV use under Section 38026 of the California Vehicle Code. 6g

Discussion: Designation of the Gordons Well overpass as a designated segment will allow establishment of an OHV access corridor from Grays Well to Dune Buggy Flats without construction of a separate OHV overpass over Interstate 8, thereby saving about \$1 million. Special signing will be required to direct OHV users and to alert drivers of highway-legal vehicles to the presence of OHVs on the overpass. Under terms of the designated segments law, only drivers licensed for highway driving and operating OHVs with appropriate lights, registration, and equipment could legally use the overpass.

- 6-33. Designate an OHV access corridor between the Grays Well (Plank Road) and Dune Buggy Flats areas, utilizing the Grays Well Road bridge over the All American Canal (6-31), the Gordon's Well Overpass (6-32), and the Coachella Canal Bridge providing access to Dune Buggy Flats (6-28). 6g

Discussion: A number of possible routes for an OHV access corridor over Interstate 8 and the All-American Canal were considered (see the route analysis in Appendix C). The selected route meets the following criteria:

- a. It links Class I with Class I, and avoids Class L.
- b. It is the most cost-effective alterna-

tive, because it uses bridges which serve more than one function.

- c. It provides a safe alternative to at-grade crossings of Interstate 8 and OHV use of freeway canal bridges.
- d. Although the route is relatively inconvenient for campers in the Buttercup area, it is convenient for campers in both the Grays Well (Plank Road) and Dune Buggy Flats area, who together constitute a larger number of users than those at Buttercup.
- e. The route links the north and south areas near the focal point which will be created by concession development west of the Plank Road (prescription 8-7).

#### 4. Mammoth Wash Area (See Map 8)

##### Management Prescriptions

##### Issues Resolved

#### Level 4

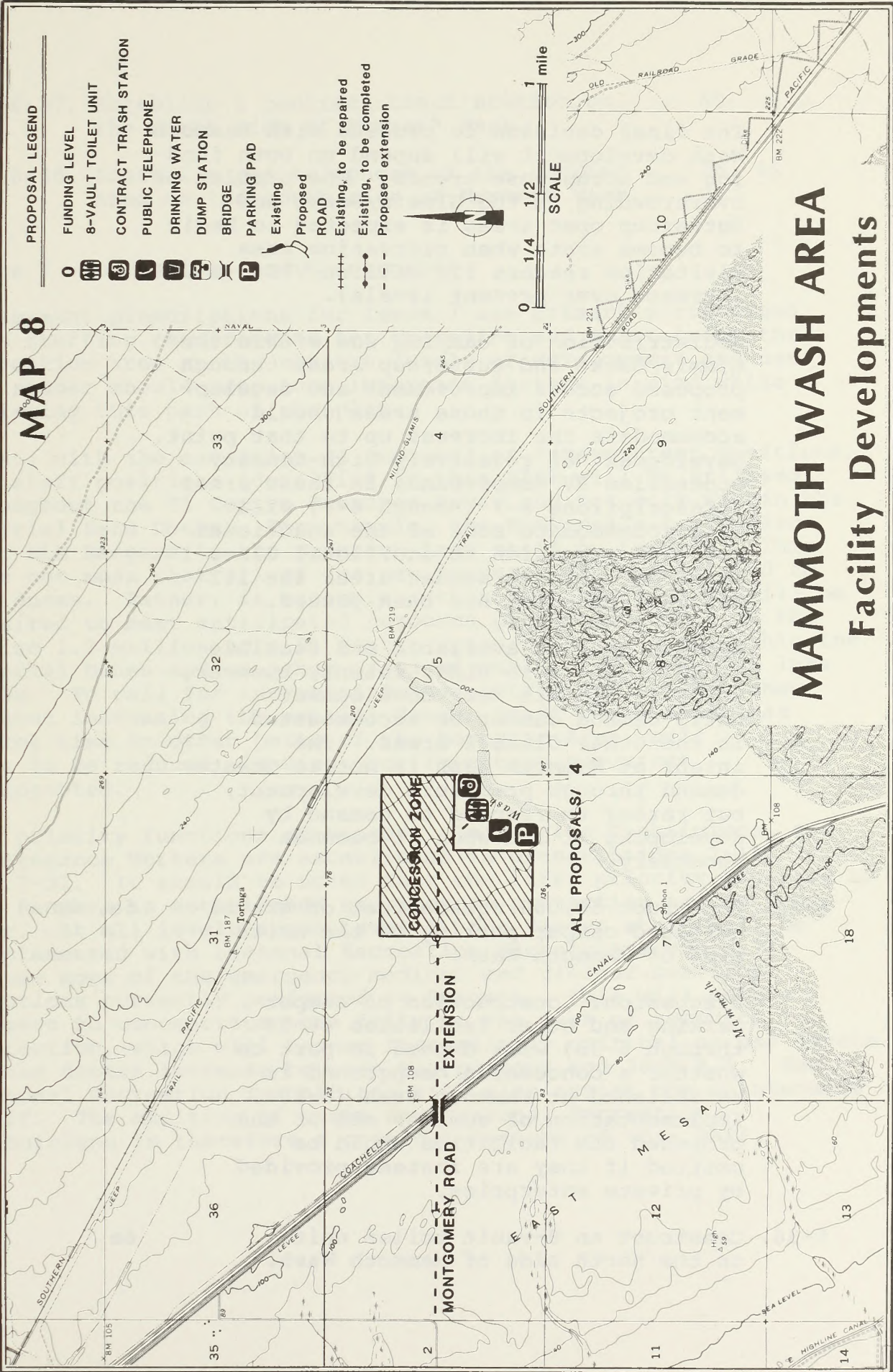
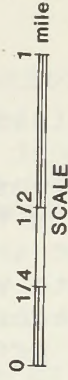
- 6-34. Extend Montgomery Road 2.7 miles east to Mammoth Wash, constructing a new bridge across the Coachella Canal. 6h

Discussion: There is at present no legal access for two-wheel drive RVs to Mammoth Wash. This has served to severely limit use of the area. While its remoteness is a positive point for many users seeking solitude, it does prevent full public use of the Mammoth Wash Open Area. By the mid-1990s, increasing demand for riding areas will require BLM to look for alternatives to reduce congestion at Glamis/Gecko and Buttercup. Development of access and visitor facilities (6-35 through 6-38) will provide users approaching from the Riverside/San Bernardino/Los Angeles area with a convenient alternative to Glamis.

# MAP 8

## PROPOSAL LEGEND

- FUNDING LEVEL
- 8-Vault Toilet Unit
- CONTRACT TRASH STATION
- PUBLIC TELEPHONE
- DRINKING WATER
- DUMP STATION
- BRIDGE
- PARKING PAD
- Existing
- Proposed
- ROAD
- Existing, to be repaired
- Existing, to be completed
- Proposed extension



## MAMMOTH WASH AREA

### Facility Developments

The final decision to proceed with Mammoth Wash development will depend on both funding and actual use trends. The problem of overcrowding in the Glamis/Gecko and Buttercup open areas is expected to begin to become acute when recreation area visitation reaches 1.2 million VUDs (a 33% increase over present levels).

Redistribution of camping use within the Glamis/Gecko and Buttercup areas through proposed access improvement and development projects in those areas should accommodate the increase up to that point. Development of relatively high-density concession RV campgrounds in those areas (prescriptions 8-7 through 8-9) will help accommodate some of the additional use, but expansion to additional Class I lands may also be needed after the 1.2 million VUD point has been passed.

Mammoth Wash is available and feasible to develop. It is BLM's intent, however, to delay Mammoth Wash development until demand cannot be accommodated in the other Class I areas. The intent at Mammoth Wash is not to create demand through premature development, but rather to respond to demand by developing if and when it becomes necessary.

- 6-35. Construct 50,000 square feet of gravel-surfaced camper parking on the north side of Mammoth Wash. 6a, 6e

Discussion: Construction of camper parking and other facilities (6-36 through 6-38) will depend in part on whether a concession campground is established at Mammoth Wash (8-10). Implementation of some or all of the proposed BLM facilities could be omitted if they are instead provided by private enterprise.

- 6-36. Construct an 8-vault toilet unit on the north side of Mammoth Wash. 6e

- 6-37. Establish a contract trash station on the north side of Mammoth Wash. 6e
- 6-38. Install a pay telephone at the camping area on the north side of Mammoth Wash. 2h, 6i

#### Issue 7 - Operations and Maintenance

Management prescriptions for Issue 7 are primarily concerned with staffing requirements for operating and maintaining the recreation area at the various levels of development and use. The reader should keep some important factors in mind while reviewing this part of the plan:

First, with the exception of seasonal or intermittent positions, the staff positions identified in this RAMP will be utilized throughout the El Centro Resource Area, and not only within the Imperial Sand Dunes. For example, the RAMP calls for adding four BLM Rangers to the Resource Area staff by Level 5. This does not mean that all of the new Rangers will be assigned to the dunes. Rather, it recognizes that four new Rangers will be required to meet anticipated resource protection needs on the entire 1.2 million acre El Centro Resource Area, both within the Imperial Dunes and on other areas of public lands, by the late 1990s. To call for increased Ranger patrol within the dunes without increasing the overall Ranger staff would mean that patrol time in other parts of the Resource Area would have to be reduced, leaving many important resources unprotected.

The priority functions of Rangers, Recreation Technicians, and Maintenance Workers are established in prescriptions 7-11, 7-19, and 7-31. It should be noted that the first priority function of BLM Rangers is established as resource protection and enforcement. At all levels above Level 1, the Ranger staff will be supplemented with seasonal Recreation Technicians who will assume some of the emergency medical and visitor services functions currently performed by Rangers. This will enable Rangers to concentrate more fully on the task of resource protection, which will become increasingly critical as use levels in the desert increase between the present and 2000 A.D. The seasonal Recreation Technicians will also assist the maintenance staff. The addition of these new seasonal Recreation Technicians is therefore a critical feature of this RAMP.

# 1. Resource Protection/Enforcement Staff

## Management Prescriptions

## Issues Involved

### Level 1

- 7-1. Patrol the entire recreation area with a single BLM Ranger assisted by up to three BLM Rangers from other patrol sectors during heavy-use periods. 1c, 2c, 3e, 3f, 7f

Discussion: This is the current situation. The El Centro Resource Area has four Rangers to patrol a total of 1.2 million acres. The Ranger assigned to the Imperial Sand Dunes also has patrol responsibility for a sector encompassing about 200,000 acres of adjacent public lands in addition to the dunes. Because the Imperial Sand Dunes receives half of the total visitation to the El Centro Resource Area, the other Rangers frequently assist the single Ranger formally assigned to the dunes patrol sector. Because of the importance of the resource protection function of Rangers, the number of rangers will not be reduced even if funding is reduced in Level 1. However, as resource protection needs grow with increased use, visitor services functions performed by Rangers will have to be curtailed in order to meet those protection needs.

- 7-2. Allocate approximately 840 hours of ranger patrol time to the recreation area annually, subdivided as follows: 1c, 2c, 3e, 3f

Area	Patrol Hours
Mammoth Wash/north WSA 360	40
Glamis/Gecko/south WSA 360	640
Buttercup/Gordons Well	120
Ogilby/WSA 362	40
TOTAL	840

Discussion: This is the current (1985) situation. Patrol hours indicate the approximate total number of hours actually spent in each area from all

patrols. BLM Rangers made 340 separate patrols of the recreation area in 1985, with the average patrol lasting about 2-1/2 hours. Actual patrol lengths varied from brief drive-throughs during the off-season to continuous patrol between 8 a.m. and midnight during holiday use periods. A BLM Ranger spends approximately 1340 hours per year in field patrol.

## Level 2

- 7-3. Add one additional BLM Ranger to the El Centro Resource Area staff. 1c, 2c, 3e, 3f, 7f

Discussion: Additional Rangers will be assigned to patrol as needed to meet resource protection and enforcement needs throughout the El Centro Resource Area. Growing protection needs in the Imperial Dunes constitute only a portion of the overall justification for this position.

- 7-4. Allocate a total of approximately 1,200 hours of Ranger patrol time to the recreation area annually, subdivided as follows: 1c, 2c, 3e, 3f

Area	Patrol Hours
Mammoth Wash/north WSA 360	80
Glamis/Gecko/south WSA 360	640
Buttercup/Gordons Well	400
Ogilby/WSA 362	80
TOTAL	1,200

Discussion: Additional hours will be allocated to meet increasing needs outside the Glamis/Gecko area.

## Level 3

- 7-5. Add one additional BLM Ranger to the El Centro Resource Area staff. 1c, 2c, 3e, 3f, 7f

Discussion: See discussion for 7-3.

- 7-6. Allocate a total of approximately 2,000 hours of Ranger patrol time to the recreation area annually, as follows: 1c, 2c, 3e, 3f

Area	Patrol Hours
Mammoth Wash	100
Glamis/Gecko/south WSA 360	1,100
Buttercup/Gordons Well	800
Ogilby/WSA 362	100
TOTAL	2,000

Discussion: The major patrol increases at Level 3 are in the Glamis/Gecko and Buttercup/Gordons Well areas, which are expected to receive the greatest increases in use in the early 1990s.

#### Level 4

- 7-7. Add one additional BLM Ranger to the El Centro Resource Area staff. 1c, 2c, 3e, 3f, 7f
- 7-8. Allocate a total of approximately 2,500 hours of Ranger patrol time to the recreation area annually, subdivided as follows: 1c, 2c, 3e, 3f

Area	Patrol Hours
Mammoth Wash	500
Glamis/Gecko	1,000
Buttercup/Gordons Well	800
Ogilby/WSA 362	200
TOTAL	2,500

Discussion: The development of Mammoth Wash at Level 4 will result in significant patrol increases in the northern dunes. Diversion of some use (most notably that originating in the Los Angeles area) from Glamis/Gecko to Mammoth Wash will result in a small reduction in patrol hours at Glamis/Gecko. Patrol hours in the Ogilby/south WSA 362 area will grow, due to increased use and the need for increasingly active resource protection measures in

Class L.

Level 5

- 7-9. Add one additional BLM Ranger to the El Centro Resource Area staff. 1c, 2c, 3e, 3f, 7f
- 7-10. Allocate a total of approximately 3,000 hours of Ranger patrol time to the recreation area annually, subdivided as follows: 1c, 2c, 3e, 3f

Area	Patrol Hours
Mammoth Wash/north WSA 360	600
Glamis/Gecko/south WSA 360	1,200
Buttercup/Gordons Well	900
Ogilby/WSA 362	300
TOTAL	3,000

Discussion: Patrol increases will be required in all areas to meet expected increases in use and consequent increased resource protection requirements.

2. Resource Protection/Enforcement Staff Functional Priorities

Management Prescriptions	Issues Resolved
All Levels	
7-11. BLM Ranger functional priorities within the recreation area are established as follows:	7h

Priority	Function
1.	Sensitive resource protection and enforcement.
2.	Emergency services.
3.	Safety rule/equipment enforcement.
4.	Mutual aid to other enforcement agencies.
5.	Information and interpretation.



The Imperial Sand Dunes are currently patrolled by a single BLM Ranger (assisted by up to three other Rangers during heavy-use periods). The Ranger patrolling the dunes also has patrol responsibility for an additional 200,000 acres outside the dunes.



The El Centro Resource Area employs a single Maintenance worker to clean up after 226,000 visitors to the Imperial Sand Dunes each year. The worker also has responsibility for two campgrounds and five Long-Term Visitor Areas outside the dunes.

Discussion: Sensitive resource protection is established as the priority function of Rangers. Rangers will, of course, continue to respond as needed to provide emergency medical assistance. However, the new EMT/Recreation Technicians will assume the emergency response function whenever possible (see prescription 7-19).

### 3. EMT/Visitor Services (Recreation Technician) Staff

#### Management Prescriptions

#### Issues Resolved

#### Level 2

- 7-12. Hire two seasonal EMT/Recreation Technicians to be stationed at the Cahuilla Ranger Station between November 1 and Memorial Day. 2h, 5e, 7f

Discussion: Funding for these positions will be provided by the State OHV Fund for two years beginning with the 1987-88 season. This plan calls for continuing and expanding this program as needed in the future.

- 7-13. Allocate a total of approximately 1,200 hours of Recreation Technician time to field patrol annually, subdivided as follows: 2h, 5e

Area	Patrol Hours
Mammoth Wash	100
Glamis/Gecko	600
Buttercup/Gordons Well	400
Ogilby	100
TOTAL	1,200

Discussion: In contrast to BLM Rangers, who will patrol throughout the El Centro Resource Area, EMT/Recreation Technicians will be assigned exclusively to the Imperial Sand Dunes or occasionally to other OHV use areas. Their patrol hours

will be accrued mostly on weekends. On weekdays, they will perform maintenance functions and prepare interpretive materials and programs (see prescription 7-19).

- 7-14. Hire up to four intermittent EMT/ Recreation Technicians to work weekends and holidays between November 1 and Memorial Day at the Cahuilla Ranger Station. 2h, 5e, 7f

Discussion: Funding for these positions will be provided by the State OHV Fund for two years beginning with the 1987-88 season. These employees will staff the station, freeing the two seasonal Recreation Technicians to make visitor services patrols through the recreation area.

#### Level 3

- 7-15. Hire two additional seasonal EMT/ Recreation Technicians to work primarily in the southern part of the recreation area. 2h, 5e, 7f
- 7-16. Allocate a total of approximately 2,400 hours of Recreation Technician time to field patrol annually, subdivided as follows: 2h, 5e

Area	Patrol Hours
Mammoth Wash	200
Glamis/Gecko	1,100
Buttercup/Gordons Well	900
Ogilby	200
TOTAL	2,400

#### Level 4

- 7-17. Hire one additional seasonal EMT/ Recreation Technician to work primarily in the northern part of the recreation area (Mammoth Wash). 2h, 5e, 7f
- 7-18. Allocate a total of approximately 3,000 hours of Recreation Technician time to field patrol annually, subdivided as 2h, 5e

follows:

Area	Patrol Hours
Mammoth Wash	700
Glamis/Gecko	1,200
Buttercup/Gordons Well	900
Ogilby	200
TOTAL	3,000

Level 5

(Same level of staffing to be retained.)

#### 4. EMT/Recreation Technician Staff Functional Priorities

Management Prescriptions	Issues Resolved
All Levels	
7-19. EMT/Recreation Technician staff functional priorities are established as follows:	7h

Priority	Function
1.	Emergency Services.
2. (weekends)	Public information and interpretation.
2. (weekdays)	Maintenance of management facilities, especially signs, the ranger station, fences, and barricades, in conjunction with maintenance workers.
3.	Reporting violations to Rangers.

#### 5. Recreation Planning Staff

Management Prescriptions	Issues Resolved
Level 1	
7-20 If funding permits, retain a Lead Outdoor Recreation Planner and Outdoor Recreation	7f, 7g

Planner positions in the  
El Centro Resource Area Office.

Discussion: Two Outdoor Recreation Planners are needed to administer the large recreation program in the Resource Area. With completion of the Imperial Sand Dunes RAMP, the planning emphasis will shift to preparation of site plans for specific proposed facilities, preparation of State OHV Grant applications, administration of the permit program for special recreation events, and other aspects of RAMP implementation. Outdoor Recreation Planners also perform uniformed visitor services work such as staffing the Cahuilla Ranger Station and making field interpretive contacts. If Level 1 funding cuts make elimination of one Recreation Planner mandatory, visitor services such as Ranger Station operation will have to be cut back and the number of special events permitted by BLM will likely have to be reduced.

Level 2

(Maintain Level 1 staff)

Level 3

- 7-21. Add one Outdoor Recreation Planner to the El Centro Resource Area staff to serve as a recreation permit and concessions management specialist. 7f, 8d

Discussion: The third Recreation Planner will specialize in concession planning, liaison, and management, as well as in the administration of other special use authorizations throughout the Resource Area.

Level 4

(Maintain Level 3 staff)

Level 5

(Maintain Level 4 staff)

## 6. Maintenance Staff

Management Prescriptions	Issues Resolved
Level 1	
7-22. Accomplish all maintenance tasks in the El Centro Resource Area with a single Maintenance Worker.	7b, 7d, 7f

Discussion: This is the current situation, which is a reduction since 1980, when the Resource Area employed two maintenance workers.

7-23. Allocate approximately 680 hours of Maintenance Worker time to the Imperial Sand Dunes annually, subdivided as follows:	7b, 7d, 7f
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Area	Maintenance Hours
Mammoth Wash	10
Glamis/Gecko	630
Buttercup/Gordons Well	25
Ogilby	15
TOTAL	680

Discussion: This is the current situation. The vast majority of hours are devoted to basic sanitation (trash pick up and toilet cleaning), sign installation and replacement, and sand clearing along the Imperial Sand Dunes (Gecko) Road, the area of existing facility development.

### Level 2

7-24. Add one seasonal Maintenance Worker between November 1 and Memorial Day.	7b, 7c, 7d, 7f
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Discussion: Funding for this position will be provided by the State OHV Fund for two years beginning with the 1987-88 season. This position will at least partially compensate for the full-time position lost in 1980. Two maintenance workers are necessary to meet increasing

demands throughout the resource area. This employee will work exclusively in the dunes or in other OHV use areas.

- 7-25. Allocate approximately 1,300 hours of Maintenance Worker time to the Imperial Sand Dunes annually, subdivided as follows: 7b, 7c,  
7d, 7f

Area	Maintenance Hours
Mammoth Wash	20
Glamis/Gecko	1,050
Buttercup/Gordons Well	200
Ogilby	30
TOTAL	1,300

Discussion: Increases will be required to maintain the new Roadrunner Campground, to improve preventative maintenance of existing facilities in the Gecko area and to organize and supervise increased volunteer trash cleanup projects near Glamis. The employee will also perform site (overflow) cleanups at new contract trash stations at Buttercup, Grays Well, and Gordons Well, and keep the new Buttercup Road (Grays Well extension) clear of sand.

### Level 3

- 7-26. Add an additional full-time Maintenance Worker to the El Centro Resource Area staff. 7b, 7c,  
7d, 7f

Discussion: With the major expansion of facilities at Glamis and the Buttercup/Grays Well/Gordons Well area, and the addition of two new bridges (Sand Hills Overpass and the Gordons Well bridge over Coachella Canal) in the southern part of the recreation area, maintenance staff requirements will double between Level 2 and Level 3. The new full-time Maintenance Worker will assume overall responsibility for maintenance of the southern dunes recreation sites and other nearby sites such as Long Term Visitor Areas.

- 7-27. Add an additional seasonal Maintenance Worker between November 1 and Memorial Day. 7b, 7c, 7d, 7f

Discussion: The seasonal worker will be needed to meet maintenance requirements of the southern dunes recreation sites during the use season.

- 7-28. Allocate approximately 2,600 hours of Maintenance Worker time to the Imperial Sand Dunes annually, subdivided as follows: 7b, 7c, 7d, 7f

Area	Maintenance Hours
Mammoth Wash	150
Glamis/Gecko	1,400
Buttercup/Gordons Well	900
Ogilby	150
TOTAL	2,600

Discussion: Level 3 increases reflect the growing maintenance commitment in the Glamis and Buttercup/Grays Well/Gordons Well areas.

#### Level 4

- 7-29. Add an additional seasonal Maintenance Worker between November 1 and Memorial Day. 7b, 7c, 7d, 7f

Discussion: The additional seasonal worker will be needed to meet increasing commitments, especially at Mammoth Wash. Development of a concession facility at Mammoth could make this position unnecessary.

- 7-30. Allocate approximately 2,900 hours of Maintenance Worker time to the Imperial Sand Dunes annually, as follows: 7b, 7c, 7d, 7f

Area	Maintenance Hours
Mammoth Wash	350
Glamis/Gecko	1,500
Buttercup/Gordons Well	900
Ogilby	150
TOTAL	2,900

Discussion: Allocation of hours will depend in part on the degree to which concessions assume maintenance responsibilities.

#### Level 5

(Same staffing as Level 4)

### 7. Maintenance Staff Functional Priorities

Management Prescriptions		Issues Resolved
All Levels		
7-31. Maintenance staff functional priorities are established as follows:		7h
Priority	Function	
1.	Developed recreation site sanitation (toilets, trash).	
2.	Sand removal from roads and camping pads.	
3.	Developed recreation site facility/building repair and maintenance.	
4.	Dispersed area trash cleanup and supervision of volunteer cleanup projects.	

### 8. Volunteer Program

Management Prescriptions		Issues Resolved
Level 2		
7-32.	Establish a Volunteer Dunes Patrol to assist in distributing safety and recreation information, conduct safety workshops, radio emergency	2a, 2h, 5a, 5b, 5d, 5e, 7d, 7g

accident information to BLM staff, and conduct trash pickups and other light maintenance projects.

Discussion: The Dunes Patrol is a vital element in the recreation area safety and interpretive programs, and will provide invaluable assistance to BLM Rangers and EMT/Recreation Technicians. See related prescriptions 2-5, 5-12, 5-13, and 6-3.

- 7-33. BLM will actively recruit for volunteers to perform a wide range of non-hazardous, non-law enforcement operations and maintenance functions. 7g

Discussion: Available volunteer positions (in addition to the Dunes Patrol and group trash cleanups) include jobs in maintenance, monitoring of WSAs and sensitive resources, development and installation of interpretive signs, and many others. BLM already actively advertises for volunteers in a variety of publications, and this recruitment effort will continue.

#### Level 3

- 7-34. Expand the volunteer Dunes Patrol program to the southern dunes (Buttercup, Grays Well, Gordons Well). 2a, 2h, 5a, 5b, 5d, 5e, 7d, 7g

#### Level 4

- 7-35. Expand the volunteer Dunes Patrol program to the northern dunes (Mammoth Wash Open Area). 2a, 2h, 5a, 5b, 5d, 5e, 7d, 7g

### 9. Alternate Funding Sources

BLM policy is to seek and accept contributions of equipment and funds for operations and maintenance purposes, and to enter into cooperative management agreements with individuals, organizations, companies, or state government agencies. An example of such an agreement is the American Honda litter cleanup agreement, under which American Honda Motor Company donated a trash compactor and a four-wheeled ATV and utility trailer, as well as trash

cans and continuing trash can maintenance (repainting).

Specific actions (at all funding levels) to encourage alternate funding include:

Management Prescriptions	Issues Resolved
7-36. Develop a special "Imperial Sand Dunes" section in future editions of the California BLM Gift Catalog, which identifies potential gifts for prospective contributors.	7e
Discussion: Prospective donors will be encouraged to make gifts of equipment items or funds for facilities or contract maintenance services.	
7-37. BLM will work closely with the California Department of Parks and Recreation and State OHV Commission to identify both short and long-term funding commitments from the California State OHV Fund.	7e
Discussion: The State OHV Fund will play a pivotal role in implementation of this plan. While the California Desert District will make every effort to seek BLM appropriations to implement as much of the plan as possible, the trend is toward budget reductions for Federal agencies. The recreation area has already been developed to the limit of BLM's current operation and maintenance capabilities. As the plan indicates, the developments anticipated at Level 2 depend in part on State OHV Fund support for operations and maintenance. This trend is likely to increase at subsequent funding levels unless significant new sources of revenue become available from the Federal sector.	
State OHV projects for site developments will be proposed only after: a) reaching agreement in principle with the State as to respective BLM/State continuing commitments for operations and maintenance, and b) conducting a careful analysis of options in the event State support comes to an end.	

## Issue 8 - Concessions and Vendors

### Management Prescription

Issues  
Resolved

#### Level 1

- 8-1. Consider mobile vendor permit applications for goods or services which  
a) enhance public enjoyment of the recreation area, b) meet an identified public need as determined by the Area Manager, El Centro Resource Area, and c) do not conflict with BLM management objectives or planning decisions. 8a, 8b

Discussion: The mobile vendor permit, which is issued on a day-by-day basis, is the most basic type of authorization for commercial activity on public lands. Location is a major consideration in determining whether or not a mobile vendor operation is consistent with BLM objectives and planning decisions. Vendor locations are considered acceptable when:

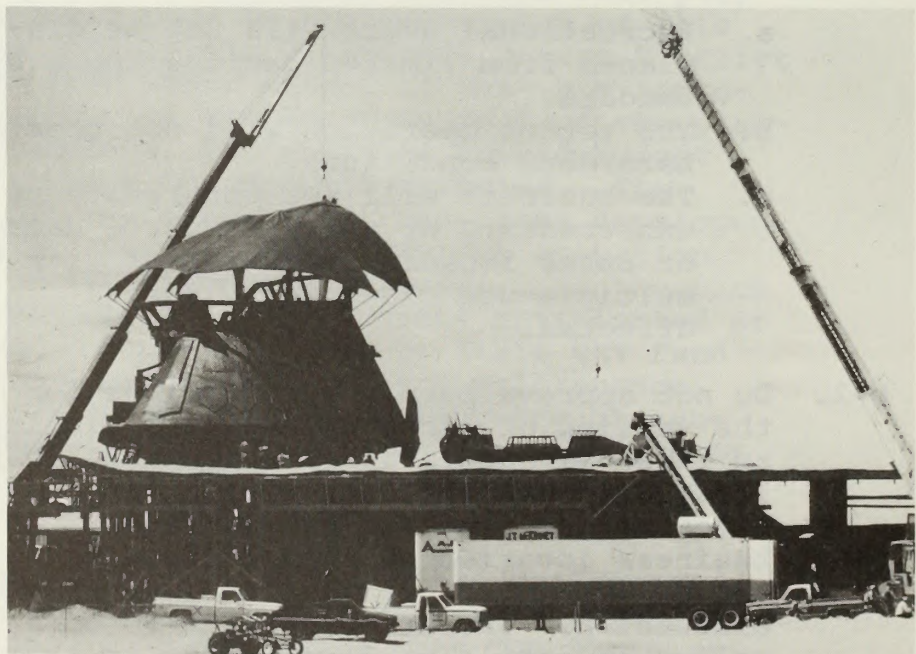
- a. Recreational users will not be displaced from limited camping space by vendors.
- b. The vendor operation will not create hazardous conditions.
- c. The business will not contribute to unnecessary or undue resource damage or other impacts inconsistent with the multiple-use class (or classes) affected.

- 8-2. Do not approve permit applications for the vending of goods or services similar to those already available from businesses located on private land within three miles of the proposed mobile vendor business location on public land. 8b

Discussion: The draft nationwide BLM policy on mobile vendors specifies that vendor permits will be considered whenever "similar goods and services are not available within the immediate travel area." The intent of this policy is to limit com-



Vending activity in the Imperial Sand Dunes, Thanksgiving weekend, 1985. Vendors pay assessed fair-market value for BLM vendor permits, and must also obtain all required State and County permits.



Workmen assemble an alien OHV in Buttercup Valley, late 1981. The dunes are a popular site for movie and television filming. See prescriptions 10-11 and 10-12.

mercial activity on public lands to those cases where a public need does in fact exist. When similar goods and services are available within the immediate travel area, the need for vending activity on public lands is minimal.

Three miles is considered a reasonable definition of the "immediate travel area" in the dunes. This means that vendors will not be permitted to operate within three miles of private businesses at Glamis or Boardmanville if similar goods or services are available at those businesses.

The Area Manager, El Centro Resource Area, will make the determination as to which categories of goods or services are "similar" to those at adjacent private businesses, following annual consultation with the operators of the businesses to determine services offered. A list of categories of goods or services for which permits will not be issued within the three-mile zone will be developed at the beginning of each use season.

- 8-3. Establish a list of goods or services which have been determined by the Area Manager, El Centro Resource Area, to be inconsistent with the management objectives of the Imperial Sand Dunes Recreation Area, and for which vending permits will be denied. This list will be subject to periodic review and updating at the discretion of the Area Manager, El Centro Resource Area. 8c

Discussion: The initial list, subject to future updates, includes:

- a. Alcoholic beverages
- b. Glass containers
- c. Any item or service not in compliance with Federal, State, or local laws or regulations.

## Level 2

- 8-4. Consider concession permit applications 8a

for commercial operations which: a) meet the basic requirements for mobile vendor permits, b) require occupancy or use of public lands on a longer basis than mobile vending, and c) may require erection of minimal semi-permanent structures.

Discussion: Concession permits are issued when:

- a. Annual gross receipts are expected to be less than \$100,000 per year.
- b. The term of the permit is five years or less.
- c. Services are generally authorized by BLM rather than required.
- d. No major capital investments are required or authorized.
- e. No possessory interest or preferential right is granted.

Types of recreational operations considered for concession permits would include such things as scenic dune buggy tours, establishment of an ATV rental service on more than a day-to-day basis (i.e., a fenced compound or other facility would be required for security for the entire season) and similar businesses. Business authorized under concession permits will be subject to the restrictions of prescriptions 8-2 and 8-3.

### Level 3

- 8-5. Designate specific vendor areas near each major recreation site for mobile vendors who normally park at a single location to do business. 8a

Discussion: As competition for available campsites becomes more acute, it will become necessary to designate specific vendor locations. See prescription 6-8.

- 8-6. Consider long-term concession leases if a) the concession will meet an identified public need and b) the leased service will provide active support to BLM's management program. 8d

Discussion: Long-term concession leases are issued if:

- a. BLM determines that such a concession is necessary to meet BLM management objectives.
- b. The concessioner will be required to make a substantial investment in personal property.
- c. The concessioner will be required to acquire or construct real property facilities.
- d. The term of the lease is to be five years or more in duration (sufficient to provide for a reasonable amortization of the capital investment).

The two main types of long-term leases to be considered in the Imperial Sand Dunes will be for general store and RV campground facilities. Such leases will be awarded on a competitive bid basis in response to a bid prospectus issued by BLM.

Prescriptions 8-9 through 8-10 designate potential concession development zones and establish an approximate timetable for leasing of concessions in the various zones. The final decision to solicit for lease proposals will be based on actual trends in public use and demand in the recreation area. The basic principle here is identical to that stated previously in relationship to the development of Mammoth Wash. Concession leases will not be authorized in order to create demand. Instead, they will be issued when necessary to meet public demand and to support BLM management objectives. The proposed concession leasing schedule reflects workshop and workbook input from the public regarding the current need for and desirability of long-term concessions, as well as the anticipated need to provide for higher density camping facilities in the mid-to-late 1990s. If the expected increase in demand should develop more gradually than anticipated, the need for concessions may also develop more gradually.

- 8-7. Designate a 150-acre concession development zone west of Grays Well (the Plank Road) for potential leasing approximately 1991. 8e

Discussion: Workshop and workbook input indicated a more immediate need for concession facilities in the southern dunes than in other areas. The decision to lease earlier here is also based on BLM's more limited existing management capability in the southern dunes.

The location west of Grays Well was selected to avoid commercial congestion around the Buttercup Valley/Sand Hills Interchange area and to provide a central commercial service zone once the access corridor over the canal and freeway from Gordons Well and Dune Buggy Flats has been developed.

#### Level 4

- 8-8. Designate a 300-acre concession development zone on the west side of the Imperial Sand Dunes (Gecko) Road about three miles south of State Highway 78, for potential leasing approximately 1995. 8e

Discussion: This site was selected because of favorable terrain (relatively flat and stable) for facility development, because it is located well within the existing Class I area, and because it is conveniently accessible to all users along the road.

- 8-9. Designate a 200-acre concession development zone on the flats between the Southern Pacific Railroad and the dunes approximately one mile south of Glamis, for potential leasing approximately 1995. 8e

Discussion: Development of this site will depend in part on commercial services and facilities then available on nearby private lands. The primary anticipated need is for an RV campground facility. Development of adjacent private lands for this purpose is preferred to development of a BLM concession.

- 8-10. Designate a 300-acre concession development zone on the north side of Mammoth Wash in Sec. 6, T. 12 S., R. 16. E., SBM, for potential leasing approximately 1996.

Discussion: See the discussion for prescription 6-34. If Mammoth Wash is developed on a concession basis, the need for development of BLM facilities may be reduced or eliminated.

## Issue 9 - Access Easements and Land Acquisition

### 1. Access Easements and Relinquishments

#### Management Prescriptions

#### Issues Resolved

#### Level 2

- 9-1. Acquire an access easement and encroachment permit for public use of 3.0 miles of the dirt road paralleling the railroad tracks south of Glamis, in Secs. 33 and 34, T. 13 S., R. 18 E., SBM; and Secs. 1, 2, and 12, T. 14 S., R. 18 E., SBM. 1a, 2b, 9a

Discussion: See prescription 6-12.

- 9-2. Following BLM acquisition of Sec. 36, T. 13 S., R. 17 1/2 E., SBM, petition Imperial County for relinquishment of the Osborn Park site to BLM. 1a, 2b, 9b

Discussion: Imperial County has asked BLM to assume management of Osborn Park on several occasions. The logical time for the transfer of administration is when BLM acquires the land on which the County-developed facility is located. See also related prescriptions 5-4, 5-5, and 9-8b.

- 9-3. Following construction of the Sand Hills Interchange, petition Imperial County for relinquishment of the Grays Well Road to BLM. 9a

Discussion: Following construction of the

Sand Hills Interchange, the Grays Well County Road will be cut off from Interstate 8 except via the new BLM Grays Well Road extension (Buttercup Road).

The County does not wish to retain its portion of the Grays Well Road once its direct access to the freeway is cut. The County has also indicated that its maintenance funding is inadequate for it to assume responsibility for the new BLM portion of the road.

Since the Grays Well Road entirely serves the BLM recreation area, relinquishment to BLM is necessary. Depending on the relative status of BLM and County road maintenance funding in the future, the road could potentially be returned to the County after it is connected with the Gordons Well Interchange (6-31) in the late 1990s.

#### Level 3

- 9-4. Acquire an encroachment permit from the Southern Pacific Railroad for development of a hiker trailhead parking area on the east side of the Niland-Glamis Road, four miles north of Glamis in Sec. 12, T. 13 S., R. 17 1/2 E., SBM. 9a

Discussion: See prescription 1-13.

- 9-5. Acquire an encroachment permit for construction of a bridge over the Coachella Canal near Gordons Well (Dune Buggy Flats), in Sec. 32, T. 17 S., R. 20 E., SBM. 9a

Discussion: See prescription 6-28.

#### Level 4

- 9-6. Acquire an access easement across 1.0 mile of private land in Sec. 1, T. 12 S., R. 15 E., SBM, to allow construction of an extension of Montgomery Road to Mammoth Wash. 9a

Discussion: See prescription 6-34.

#### Level 5

- 9-7. Acquire an encroachment permit for construction of the Grays Well Road bridge across the All-American Canal in Sec. 6, T. 17 S., R. 20 E., SBM. 9a

Discussion: See prescription 6-31.

## 2. Land Acquisition

A total of 2,680 acres of State, 160 acres of County of Imperial, and 5,660 acres of undeveloped private lands are proposed for acquisition in order to improve manageability of the recreation area. Lands in Class I are proposed for acquisition to insure continued availability of OHV recreation opportunities. Lands in WSAs or Class L are proposed for acquisition to protect sensitive resources. Where possible, acquisition will be by exchange in order to minimize costs.

Management Prescriptions	Issues Resolved
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#### Level 2

- 9-8. Acquire through exchange the following undeveloped State of California lands situated within Class I: 9b

	T.	R.	Sec.	Acres	Open Area
a.	13 S.	17 E.	36 (partial)	418	Glamis/Gecko
b.	13 S.	17 1/2 E.	36	640	Glamis/Gecko
c.	14 S.	18 E.	16	640	Glamis/Gecko
d.	12 S.	16 E.	36 (partial)	320	Mammoth Wash
TOTAL				2,018	

Discussion: It is anticipated that all State of California (9-8 and 9-10) lands will be acquired as a part of the ongoing BLM/State exchange program. These State lands and the County parcel (9-9.) are the top priority lands for acquisition because they are the lands on which the most immediate action is needed to insure uniform management of OHV recreation and to protect wilderness values. In several

cases the parcels occupy the boundary between Class I and a WSA.

- 9-9. Acquire through exchange undeveloped County of Imperial lands situated within Class I (Glamis/Gecko Open Area) in the NE 1/4 Sec. 36, T. 13 S., R. 17 E., SBM (160 acres). 9b

Discussion: See prescription 9-8.

- 9-10. Acquire through exchange the following undeveloped State of California lands situated within WSAs or Class L: 9c

	T.	R.	Sec.	Acres	Area
a.	12 S.	16 E.	36 (partial)	320	WSA 360
b.	13 S.	17 E.	36 (partial)	62	WSA 360
c.	14 S.	18 E.	36 (partial)	280	WSA 362
	TOTAL			662	

Discussion: See prescription 9-8.

#### Level 3

- 9-11. Acquire through exchange undeveloped private lands situated within Class I in Secs. 5, 9, 15, 16, and 17, T. 12 S., R. 16 E., SBM (3200 acres). 9b

Discussion: These lands are in the Mammoth Wash Open Area.

- 9-12. Acquire through exchange undeveloped private lands situated within Class L and WSA 360 in Sec. 16, T. 13 S., R. 17 E., SBM, (640 acres). 9c

Discussion: This parcel straddles the west boundary of WSA 360 at the Coachella Canal.

#### Level 4

- 9-13. Acquire through exchange the following undeveloped private lands situated within Class L or WSA 362: 9c

	T.	R.	Sec.	Acres	Area
a.	14 S.	18 E.	36 (partial)	40	WSA 362
b.	15 S.	20 E.	28, 33, 34	1,140	Class L
c.	15 S.	19 E.	16	640	WSA 362
	TOTAL			1,820	

Discussion: The two parcels in WSA 362 face no immediate threats from development. The lands in Class L are near Ogilby. Acquisition will create a more manageable recreation area boundary in the Ogilby area.

## Issue 10 - Compatibility of Land Uses

### 1. Bureau of Reclamation Withdrawal

#### Management Prescriptions

#### Issues Resolved

#### All Levels

- 10-1 Coordinate with the Bureau of Reclamation on the proposed project to line the All-American Canal. 10a

Discussion: The Bureau of Reclamation will need to consider the proposed All-American Canal bridge for the Grays Well Road (6-28) in the design of the relined canal.

### B. U.S. Navy Cooperative Agreement

#### Management Prescriptions

#### Issues Revolved

#### All Levels

- 10-2 Implement the Navy/BLM/Bureau of Reclamation Cooperative Agreement within the Imperial Sand Dunes Recreation Area. 10b

Discussion: The Target 68 closure will be enlarged to extend all the way to the west side of the old Coachella Canal. Navy review will be required on all proposed development projects in Range Safety Zone C in the Gecko area.

### 3. Sand and Gravel Sales and Free-Use Permits

#### Management Prescriptions

#### Issues Resolved

##### All Levels

- 10-3 At sand and gravel pits east of Glamis, require the operator to leave safe contours (maximum 5:1 slope) and vehicular access to the pits at the conclusion of operations. 10c.

Discussion: Abandoned gravel pits east of Glamis are utilized by the public as camping areas. This stipulation will insure the pits are left in a safe condition.

- 10-4 Issue permits for sand and gravel extraction within Class I only for operations during the period June 15-September 30, and require pits to be left in a safe condition (maximum 5:1 slope) following operations. 10c

Discussion: This limitation will eliminate potential conflicts with recreational use.

- 10-5 Do not issue permits for sand and gravel extraction in WSAs or Class L. 10c

Discussion: The presence of sensitive resources in WSAs and Class L, combined with the tremendous volume of sand available in Class I, make extraction in WSAs or Class L unnecessary.

### 4. Mining Claims

#### Management Prescriptions

#### Issues Resolved

##### All Levels

- 10-6 Require the operator to post unsafe conditions as a stipulation in the plan of operations. 10d.

Discussion: This requirement will reduce, but not eliminate, potential conflicts between mining and recreation. The

incidence of mining claims is, however, small in the dune system proper.

## 5. Rights-of-Way

	Management Prescriptions	Issues Resolved
	All Levels	
10-7	Confine new rights-of-way to existing corridors.	10e
10-8	Require posting of reflective devices on poles, guy wires or any other surface structures erected within Class I to enhance day and night visibility.	10e

## 6. Land-Use Permits

	Management Prescriptions	Issues Resolved
	All Levels	
10-9	Confine apiary sites to locations one mile or more from intensive recreational use zones.  Discussion: This is consistent with the existing El Centro Resource Area Apiary Management Plan.	10f
10-10	Permit no apiary sites within the dunes system proper.  Discussion: The dunes generally lack the water and two-wheel drive access needed for apiary operations, so this prescription will have no impact on existing operations.	10f
10-11	Issue commercial filming permits for weekdays when possible.  Discussion: The dunes are a popular setting for movies, TV shows, and commercials. Permits are generally issued for weekdays to avoid recreational use. However, it is recognized that depiction of recreational use may be essential to some filming projects.	10f

- 10-12 Issue long-term filming permits (for periods of longer than five consecutive days) requiring the erection of structures or continuous presence of work or film crews only for sites where recreational use will not be disrupted. 10f

## 7. Geothermal Leasing

### Management Prescriptions

Issues  
Resolved

#### All Levels

- 10-13 Do not lease the Glamis/Gecko Open Area except for "no surface occupancy" leases on peripheral tracts which can be reached by slant drilling from outside the sand dune system. 10g

Discussion: The Glamis/Gecko Open Area sits astride the Glamis Known Geothermal Resource Area. The decision not to lease this area was reached through the 1981 Glamis/Dunes Geothermal Leasing Environmental Assessment. It recognizes the serious safety problems which could arise from installation of wells, surface pipes, and other structures in the off-road vehicle area.

- 10-14 Follow decisions reached in the Glamis/Dunes Geothermal Leasing Environmental Assessment for the remainder of the recreation area. 10g

Discussion: The EA called for no leasing or no-surface-occupancy leasing throughout Class L and WSAs (leasing in WSAs is also prohibited by Departmental policy). The only parts of the recreation area subject to leasing are a section of East Mesa on the southwest side of the dune system and the area east of Glamis.

# PART IV

## Implementation and Cost Estimates

1. All costs are based on the following assumptions:  
a. The project will be completed by the end of 1970.  
b. The project will be completed by the end of 1970.  
c. The project will be completed by the end of 1970.
2. The project will be completed by the end of 1970.  
a. The project will be completed by the end of 1970.  
b. The project will be completed by the end of 1970.  
c. The project will be completed by the end of 1970.
3. The project will be completed by the end of 1970.  
a. The project will be completed by the end of 1970.  
b. The project will be completed by the end of 1970.  
c. The project will be completed by the end of 1970.
4. The project will be completed by the end of 1970.  
a. The project will be completed by the end of 1970.  
b. The project will be completed by the end of 1970.  
c. The project will be completed by the end of 1970.
5. The project will be completed by the end of 1970.  
a. The project will be completed by the end of 1970.  
b. The project will be completed by the end of 1970.  
c. The project will be completed by the end of 1970.



## Part IV - Implementation and Cost Estimates

### A. Detailed Implementation Plan

The following table presents a detailed projection of scheduling and costs for each management prescription, as well as identification of proposed funding sources. The following factors should be considered in interpreting the detailed plan:

1. All costs are shown in 1986 dollars. Inflation is not figured into the cost estimates, because actual implementation dates will vary according to funding availability. To obtain an estimate of the actual cost at time of completion, add 5% per year after 1986.
2. Ongoing projects are indicated in the "Date Projected Complete" column by two dates separated by a hyphen (-). These two dates are the first and last years the project will occur. All costs shown for ongoing projects will be recurring annual costs for every year beginning with the first listed date and ending with the second listed date. In cases where completion dates are listed without hyphens, the project will occur only on the year or years actually listed.
3. A BLM "work month" is equal to 172 work hours. The average work month cost is \$2,500. To figure labor costs, multiply the listed work month figure by \$2,500.
4. For prescriptions calling for staff increases, only the portion of a staff person's salary and expenses directly attributable to the Imperial Sand Dunes is shown on this table. In most cases (except seasonal positions), the figure shown is only 30-40% of the actual cost of adding the new position. This is because most new positions will have Resource Area-wide duties and responsibilities.
5. Indirect administrative costs are not shown. In 1986, these costs were equal to 19% of all direct project costs.
6. The principle proposed funding source other than BLM is the California Department of Parks and Recreation's State OHV Fund (abbreviated "DPR-OHV"). OHV Projects already approved by the DPR are indicated by an asterisk(\*).

TABLE 8

## DETAILED IMPLEMENTATION PLAN

-----  MANAGEMENT  -----  PRESCRIPTION  -----  NUMBER	ACTION	DATE PROJECTED COMPLETE	PROJECTED WORK MONTHS	PROJECTED MATERIAL COST	CONTRACT VALUE	FUNDING SOURCE	-----  ADMINISTRATIVE PURPOSES  -----					UNIT NUM.	UNIT LABEL
							DEC. NUM.	SUB- ACT.	PROG. ELEM.	FMS RPT	Y		
1-1	ENFORCE NO PARKING ON ROADWAYS.	9/30/87 - 9/30/99	SEE 7-1.*	\$200		BLM	RE-36	4333	12	Y		13	476
1-2	NO COMP. EVENTS ALONG GECKO ROAD.	9/30/87 - 9/30/99	0.1			BLM	RE-13 RE-36	4333	11	Y		2	686
1-3	DELENIATE COMP. EVENT STAGING AREAS AT GLAMIS.	9/30/87 - 9/30/99	0.1			BLM	RE-13 RE-36	4333	11	Y		2	686
1-4	ENFORCE ALGODONES CLOSURE.	9/30/87 - 9/30/99	SEE 7-1.*			BLM	RE-36 WL-20	4333	12	Y		20	476
2-1	REQUIRE EMT TRAINING FOR RANGERS.	9/30/87 - 9/30/99	0.2	\$300		BLM	RE-36	4333	03	N		2	596
2-2	STATION EMTs AT CAHUILLA R.S. 20 DAYS/YR.	9/30/87 - 9/30/99	2.0			BLM	RE-36	4333	12	Y		44	476
2-3	ENFORCE SAFETY AND EQUIPMENT LAWS.	9/30/87 - 9/30/99	SEE 7-1			BLM	RE-36	4333	12	Y		10	476
2-4	ENFORCE STREET-LEGAL USE OF MAINTAINED ROADS.	9/30/87 - 9/30/99	SEE 7-1	\$300		BLM	RE-36	4333	12	Y		10	476
3-1	NO SITE DEVELOPMENT AT OGILBY.	9/30/87 - 9/30/99	0.1			BLM	RE-36	4333	10	Y		1	531
3-2	NO COMP. EVENT START/FINISH/PITS IN CLASS L.	9/30/87 - 9/30/99	0.1			BLM	RE-36	4333	11	Y		2	686
3-3	ALLOW COMP. EVENTS TO PASS THROUGH CLASS L.	9/30/87 - 9/30/99	0.2			BLM	RE-13 RE-36	4333	11	Y		1	686
3-4	POST CLOSURES WITH MAX. INTERVAL OF 1/4 MILE.	9/30/87 - 9/30/99	0.2	\$300		BLM	RE-36	4712	11	Y		1	405
4-1	INSURE COMPLIANCE WITH IMP	9/30/87 - 9/30/99	0.2			BLM	WI-9	4332	10	Y		2	676

MANAGEMENT !-----PRESCRIPTION-----! NUMBER ACTION	DATE PROJECTED COMPLETE	PROJECTED WORK MONTHS	PROJECTED MATERIAL COST	CONTRACT VALUE	FUNDING SOURCE	!----- ADMINISTRATIVE PURPOSES -----! DEC. SUB- PROG. FMS UNIT UNIT NUM. ACT. ELEM. RPT NUM. LABEL					
4-2 MONTHLY MONITORING OVERFLIGHTS.	9/30/87 - 0.6 9/30/99			\$2,400	BLM	WI-9	4332	10	Y	12	441
5-1 REPRINT BROCHURE AS NEEDED.	9/30/88 9/30/90 9/30/93 9/30/96, 9/30/99	0.1		\$3,500	BLM	RE-36	4333	12	N	1	346
5-2 DISTRIBUTE BROCHURES VIA BLM PERSONNEL.	9/30/87 - 9/30/99	0.1			BLM	RE-36	4333	12	Y	2	476
7-1 PATROL WITH ONE RANGER.	9/30/87 - 9/30/99	SEE 7-2	\$4,000		BLM	RE-36	4333	12	Y	20	476
7-2 ALLOCATE 840 HOURS OF PATROL TIME.	9/30/87 - 9/30/99	0.5 0.5 3.4 0.5			BLM BLM BLM BLM	WL-20 WI-9 RE-36 CR-1	4352 4332 4333 4331	12 10 12 13	N Y Y N	5 5 10 5	476 476 476 476
7-11 ESTABLISH RANGER FUNCTIONAL PRIORITIES	1/30/87	0.1			BLM	RE-36	4333	10	N	1	431
7-20 RETAIN LEAD ORP AND ORP POSITIONS.	9/30/87 - 9/30/99	3.0	\$1,500		BLM	RE-36	4333	10	Y	5	531
7-22 MAINTAIN AREA WITH ONE MAINT. WORKER.	9/30/87 - 9/30/99	SEE 7-23	\$4,000	\$1,000 \$2,500 \$10,000 \$1,000	BLM BLM BLM BLM	RE-36 RE-36 RE-36 RE-36	4712 4712 4712 4712	11 11 11 11	Y Y Y Y	1 1 1 1	381 411 416 612
7-23 ALLOCATE 680 HOURS OF MAINTENANCE TIME.	9/30/87	0.2 3.0 0.5 0.3			BLM BLM BLM BLM	RE-36 RE-36 RE-36 RE-36	4712 4712 4712 4712	11 11 11 11	Y Y Y Y	1 2 1 1	381 411 416 612
7-31 ESTABLISH MAINT. WORKER FUNCTIONAL PRIORITIES.	1/30/87	0.1			BLM	RE-36	4333	10	N	1	431
7-36 DEVELOP IMPERIAL DUNES SECTION FOR GIFT CATALOG.	9/30/87	0.1	\$150		BLM	RE-36	4333	10	N	1	526

MANAGEMENT  -----PRESCRIPTION-----		DATE	PROJECTED	PROJECTED	CONTRACT VALUE	FUNDING SOURCE	----- ADMINISTRATIVE PURPOSES -----					UNIT LABEL
NUMBER	ACTION	PROJECTED COMPLETE	WORK MONTHS	MATERIAL COST			DEC. NUM.	SUB- ACT.	PROG. ELEM.	FMS RPT	UNIT NUM.	
7-37	IDENTIFY OHV FUND COMMITMENTS.	6/30/87	0.3			8LM	RE-36	4333	10	N	1	526
8-1	CONSIDER COMPATIBLE MOBILE VENDOR APPLICATIONS.	9/30/87 - 9/30/99	0.2	\$150		8LM	MO-33	4212	21	Y	20	681
8-2	DO NOT APPROVE VENDING WITHIN 3 MI. EXISTING BUSINESSES.	9/30/87 - 9/30/99	0.1			8LM	MO-33	4212	21	Y	2	681
8-3	LIST OF INCONSISTENT GOODS OR SERVICES.	6/30/87	0.1	\$350		8LM	RE-36	4333	10	N	1	526
10-1	COORDINATE WITH BR.	9/30/87 - 9/30/99	0.1			8LM	RE-36	4333	10	N	1	246
10-2	IMPLEMENT NAVY AGREEMENT.	9/30/87	0.5	\$500		8LM	RE-36	4333	12	Y	11	476
10-3	REQUIRE SAFE CONTOURS ON GRAVEL PITS.	9/30/87 - 9/30/99	0.1			8LM	GE-5	4131	11	Y	1	601
10-4	SAND EXTRACTION IN CLASS I - SUMMER ONLY.	9/30/87 - 9/30/99	0.1			BLM	GE-5	4131	11	Y	1	601
10-5	NO SAND AND GRAVEL EXTRACTION IN CLASS L.	9/30/87 - 9/30/99	0.1			8LM	GE-5	4131	11	Y	1	601
10-6	MINERS POST UNSAFE CONDITIONS.	9/30/87 - 9/30/99	0.1			BLM	GE-1	4132	10	Y	1	496
10-7	NEW R/W IN EXISTING CORRIDORS.	9/30/87 - 9/30/99	0.1			BLM	MO-33	4211	12	Y	1	546
10-8	REQUIRE REFLECTIVE DEVICES ON STRUCTURES.	9/30/87 - 9/30/99	0.1			8LM	MO-33	4211	12	Y	1	546
10-9	NO APIARY SITES WITHIN 1 MILE OF REC. ZONES.	9/30/87 - 9/30/99	0.1			8LM	MO-33	4212	21	Y	2	681

MANAGEMENT !-----PRESCRIPTION-----! NUMBER ACTION	DATE PROJECTED WORK COMPLETE MONTHS	PROJECTED MATERIAL COST	PROJECTED CONTRACT VALUE	FUNDING SOURCE	!----- ADMINISTRATIVE PURPOSES -----! DEC. SUB- PROG. FMS UNIT UNIT NUM. ACT. ELEM. RPT NUM. LABEL						
10-10	NO APIARY SITES IN DUNE SYSTEM.	9/30/87 - 9/30/99	0.1		BLM	MO-33	4212	21	Y	1	681
10-11	FILMING PERMITS ON WEEKDAYS.	9/30/87 - 9/30/99	0.1		BLM	MO-33	4212	21	Y	11	681
10-12	LONG-TERM FILMING ONLY WHERE REC. USE NOT DISRUPTED.	9/30/87 - 9/30/99	0.1		BLM	MO-33	4212	21	Y	1	681
10-13	NO GEOTHERMAL LEASES IN GLAMIS/GECKO CLASS I.	9/30/87 - 9/30/99	0.1		BLM	GE-5	4113	16	Y	1	376
10-14	FOLLOW GLAMIS/DUNES GEOTHERMAL EA DECISIONS.	9/30/87 - 9/30/99	0.1		BLM	GE-5	4113	16	Y	1	376
LEVEL 2											
1-5	POST DIRECTIONS TO ALTERNATE CAMPSITES.	9/30/87	0.3	\$1,000	BLM	RE-36	4333	10	Y	1	611
1-6	MAP ALL CAMPING AREAS.	9/30/BB	0.1		BLM	RE-36	4333	12	Y	0.2	346
1-7	ENFORCE "FIRST-COME FIRST-SERVED".	9/30/87 - 9/30/99	See 7-4	\$500	BLM	RE-36	4333	12	Y	1	611
1-8	SOUTH OGILBY FROM "LIM" TO "OPEN."	9/30/BB	0.4	\$500	BLM	RE-36	4333	08	Y	1	286
1-9	SEC. 6 MAMMOTH TO CLASS I AND CLASS L.	9/30/BB	0.2	\$250	BLM	RE-36	4333	08	Y	1	286
1-10	SEC. 6 MAMMOTH TO "LIM" AND "OPEN."	9/30/BB	0.2	\$250	BLM	RE-36	4333	08	Y	1	286
1-11	PROVIDE HIKING INFO.	9/30/BB	0.1		BLM	RE-36	4333	12	Y	0.2	346

MANAGEMENT  -----PRESCRIPTION-----  NUMBER ACTION	DATE PROJECTED COMPLETE	PROJECTED WORK MONTHS	PROJECTED MATERIAL COST	CONTRACT VALUE	FUNDING SOURCE	----- ADMINISTRATIVE PURPOSES -----					
						DEC. NUM.	SUB- ACT.	PROG. ELEM.	FMS RPT	UNIT NUM.	UNIT LABEL
2-5	CO-SPONSOR SAFETY WORKSHOPS.	9/30/87 - 9/30/99	0.2		BLM	RE-36	4333	12	Y	1	691
2-6	ENFORCE SAFETY LAWS AT COMP. EVENTS.	9/30/87 - 9/30/99	SEE 7-4		BLM	RE-13 RE-36	4333	11	Y	5	476
2-7	GREEN STICKER CHECKPOINTS.	9/30/87 - 9/30/99	SEE 7-4		BLM	RE-36	4333	12	Y	5	476
2-8	ESTABLISH WHIP - MAST RULE.	9/30/87	0.2	\$500	BLM	RE-36	4333	10	Y	1	271
2-9	POST SIGNS - WHIP MASTS.	11/1/87	0.2	\$700	BLM	RE-36	4333	10	Y	1	611
2-10	ENFORCE WHIP MASTS.	11/1/87 - 9/30/99	SEE 7-4		BLM	RE-36	4333	12	Y	10	476
2-11	ESTABLISH 15 M.P.H. SPEED LIMIT-SAND HIGHWAYS.	9/30/87	0.1	\$500	BLM	RE-36	4333	10	Y	1	271
2-12	ESTABLISH 15 M.P.H. SPEED LIMIT ALONG RAILROAD.	9/30/89	0.1	\$500	BLM	RE-36	4333	10	Y	1	271
2-13a	POST 15 M.P.H. SIGNS-SAND HIGHWAYS.	11/1/87	0.2	\$700	BLM	RE-36	4333	10	Y	1	611
2-13b	POST 15 M.P.H. SIGNS ALONG RAILROAD.	11/1/89	0.1	\$150	BLM	RE-36	4333	10	Y	1	611
2-13c	POST 15 M.P.H. SIGNS-CAMP AREAS.	11/1/87	0.2	\$700	BLM	RE-36	4333	10	Y	1	611
2-14	ENFORCE 15 M.P.H. SPEED LIMIT.	11/1/87 - 9/30/99	See 7-4		BLM	RE-36	4333	12	Y	5	476
2-15	POST RAILROAD ROAD AS "HIGHWAY."	11/1/89	0.1	\$150	BLM	RE-36	4333	10	Y	1	611
2-16	ESTABLISH NO GLASS BEVERAGE CONTAINERS RULE.	9/30/87	0.1	\$500	BLM	RE-36	4333	10	Y	1	271

MANAGEMENT !-----PRESCRIPTION-----! NUMBER ACTION	DATE PROJECTED COMPLETE	PROJECTED WORK MONTHS	PROJECTED MATERIAL COST	CONTRACT VALUE	FUNDING SOURCE	!----- ADMINISTRATIVE PURPOSES -----! DEC. SUB- PROG. FMS UNIT UNIT NUM. ACT. ELEM. RPT NUM. LABEL					
2-17	POST SIGNS-NO GLASS BEV. CONTAINERS.	11/1/87	0.2	\$700	BLM	RE-36	4333	13	Y	1	611
2-18	COORD. WITH CALTRANS, CHP ON I-8 CROSSINGS.	1/1/88	0.2	\$500	BLM	RE-36	4333	10	N	1	246
2-19	STATION EMTs AT CAHUILLA R.S. 80 DAYS/YR.	4/30/88 - SEE 7-14	\$1,000		DPR-OHV*	RE-36	7123	10	Y	80	476
		9/30/99 1.0			BLM	RE-36	4333	12	Y	22	476
2-20	INTERAGENCY SAFETY PLAN.	9/30/88	0.5	\$100	BLM	RE-36	4333	10	Y	1	531
3-5	POST CLOSURES WITH MAX. INTERVAL OF 1/8 MI.	9/30/89	0.7	\$3,000	BLM	RE-36	4333	13	Y	1	611
3-6	IMPLEMENT PLANK ROAD ACEC PLAN, NOTE: BLM'S IMPLEMENTATION OF THIS PLAN IS TRACKED SEPARATELY.	9/30/87	\$30,000	\$32,000	DPR-OHV*	CR-1	7123	10	Y	1	361
					DPR-OHV*	CR-1	7123	10	Y	1	206
3-7	PREPARE HMP IN FY 87.	9/30/87	1.3	\$500	BLM	WL-3	4351	10	Y	1	511
3-8	LEVEL 2 BASELINE STUDIES.	9/30/89	1.7	\$1,000	\$21,000 DPR-OHV	WL-20	7123	10	Y	1	361
3-9	LEVEL 2 MONITORING STUDIES.	9/30/89	0.7	\$1,000	\$28,000 DPR-OHV	WL-20	7123	10	Y	1	451
		9/30/91									
		9/30/93									
		9/30/95									
		9/30/97									
		9/30/99									
3-10	VISITOR COUNT OVERFLIGHTS.	9/30/88	1.5		\$21,000 BLM	RE-36	4333	12	Y	1	441
		9/30/91									
		9/30/94									
		9/30/97									
3-11a	GECKO ROAD TRAFFIC COUNTER.	9/30/88	0.1	\$800	BLM	RE-36	4333	12	Y	1	451
3-11b	GRAYS WELL ROAD TRAFFIC COUNTER.	9/30/88	0.1	\$800	BLM	RE-36	4333	12	Y	1	451

;----- NUMBER	MANAGEMENT PRESCRIPTION-----;	DATE PROJECTED COMPLETE	PROJECTED WORK MONTHS	PROJECTED MATERIAL COST	CONTRACT VALUE	FUNDING SOURCE	;----- ADMINISTRATIVE PURPOSES -----;					UNIT UNIT LABEL
	ACTION						DEC. NUM.	SUB- ACT.	PROG. ELEM.	FMS RPT	UNIT NUM.	
3-11c	OGILBY TRAFFIC COUNTER.	9/30/88	0.1	\$800		BLM	RE-36	4333	12	Y	1	451
3-11d	SOUTH GLAMIS TRAFFIC COUNTER.	9/30/88	0.1	\$800		BLM	RE-36	4333	12	Y	1	451
3-11e	GORDONS WELL TRAFFIC COUNTER.	9/30/88	0.1	\$800		BLM	RE-36	4333	12	Y	1	451
3-12	MONITOR TRAFFIC COUNTERS.	9/30/88 - 9/30/99	0.4			BLM	RE-36	4333	12	Y	1	451
4-3	WSA THEME IN INTERP SIGNS.	9/30/87	0.1			BLM	WI-9	4332	10	Y	1	611
4-4	SHOW WSA BOUNDARIES ON BROCHURE MAP.	9/30/88	SEE 5-10									
4-5	BARRICADE ON OLD ALGODONES CORRIDOR.	9/30/87	0.2	\$700		BLM	WI-9	4332	10	Y	1	426
4-6	FENCE CLASS I - CLASS C BDY. NEAR GLAMIS.	9/30/88	0.2		\$8,000	BLM	WI-9	4333	10	Y	1	301
5-3	EMPHASIZE RES. PROTECT. AND SAFETY THEMES.	ONGOING										
5-4	OSBORN PARK INTERP. SITE.	6/1/88	SEE 5-5									
5-5	CONVERT OSBORN TO DAY-USE.	6/1/88	0.2	\$700		BLM	RE-36	4333	10	Y	1	271
5-6a	PLANK ROAD RESOURCE PROTECTION SIGN.	9/30/86	\$1000			E. CLAMPUS VITUS	CR-6	7122	10	N	2	356
5-6b	OSBORN RESOURCE PROTECTION SIGN.	9/30/88	0.1	\$500		DPR-OHV	RE-36	7123	10	Y	1	356
5-6c	ROADRUNNER RESOURCE PROT. SIGN	9/30/88	0.1	\$500		DPR-OHV*	RE-36	7123	10	Y	1	356

MANAGEMENT !-----PRESCRIPTION-----! NUMBER ACTION	DATE PROJECTED COMPLETE	PROJECTED WORK MONTHS	PROJECTED MATERIAL COST	CONTRACT VALUE	FUNDING SOURCE	!----- ADMINISTRATIVE PURPOSES -----! DEC. SU8- PROG. FMS UNIT UNIT NUM. ACT. ELEM. RPT NUM. LABEL					
5-7a	ROADRUNNER OHV SAFETY SIGN.	9/30/88	0.1	\$500	DPR-OHV*	RE-36	7123	10	Y	1	356
5-7b	GECKO OHV SAFETY SIGN.	9/30/88	0.1	\$500	DPR-OHV*	RE-36	7123	10	Y	1	356
5-8a	GECKO BROCHURE 80X.	9/30/88	SEE 5-8b	\$50	8LM	RE-36	4333	12	N	1	351
5-8b	ROADRUNNER BROCHURE 80X.	9/30/88	0.1	\$50	8LM	RE-36	4333	12	N	1	351
5-8c	OS80RN BROCHURE 80X	9/30/88	SEE 5-8b	\$50	8LM	RE-36	4333	12	N	1	351
5-9	OS80RN MULTIPLE-USE SIGN.	9/30/88	0.1	\$500	BLM	RE-36	4333	12	N	1	611
5-10	UPDATE BROCHURE.	9/30/88	0.5 (SEE 5-1 FOR 8LM COSTS)	\$500	DPR-OHV*	RE-36	7123	10	Y	0.6	346
5-11	CAHUILLA R.S. OPEN EVERY WINTER WEEKEND.	11//1/87 - SEE 2-19 9/30/99									
5-12	DISTRIBUTE BROCHURES VIA DUNES PATROL, REC. TECHS.	11/1/87 - SEE 7-13 9/30/99									
5-13	DUNES PATROL, REC. TECHS. CONTACT USERS.	11/1/87 - SEE 7-13 9/30/99									
5-14	REC. TECHS. EVENING PROGRAMS.	4/30/88 - 9/30/99	0.4		DPR-OHV*	RE-36	7123	10	Y	3	351
6-1	CONSTRUCT ROADRUNNER CAMPGROUND.	5/1/88	2.0	\$700,000	DPR-OHV*	RE-36	7123	10	Y	1	221
6-2a	MAINTAIN GECKO TRASH STATION.	4/30/87 - SEE 7-25 4/30/99		\$8,000	DPR-OHV*	RE-36	7123	10	Y	1	411
6-2b	ADD ROADRUNNER TRASH STATION.	4/30/89 - SEE 7-25 4/30/99		\$8,000	DPR-OHV*	RE-36	7123	10	Y	1	411

MANAGEMENT PRESCRIPTION NUMBER	ACTION	DATE PROJECTED COMPLETE	PROJECTED WORK MONTHS	PROJECTED MATERIAL COST	CONTRACT VALUE	FUNDING SOURCE	ADMINISTRATIVE PURPOSES					UNIT NUM.	UNIT LABEL
							DEC. NUM.	SUB- ACT.	PROG. ELEM.	FMS RPT			
6-3a	DUNES PATROL STORAGE BUILDING.	5/1/88	0.5		\$45,000	DPR-OHV*	RE-36	7123	10	Y		1	221
6-3b	TWO STAFF TRAILER SPACES AT CAHUILLA R.S.	5/1/88	0.5		\$45,000	DPR-OHV*	RE-36	7123	10	Y		1	221
6-4	PAVE CAHUILLA R.S. PUBLIC PARKING.	5/1/88	0.2		\$25,000	DPR-OHV*	RE-36	7123	10	Y		1	221
6-11	MAINTAIN GLAMIS TRASH STATION.	4/30/87 - SEE 7-25 4/30/91			\$8,000	DPR-OHV*	RE-36	7123	10	Y		1	221
6-12	GRADE DIRT ROAD SOUTH OF GLAMIS.	9/30/89 - 9/34/99	0.3		\$7,000	DPR-OHV	RE-36	7123	10	Y		1	416
6-20	COMPLETE BUTTERCUP ROAD.	5/1/88	2.0		\$700,000	DPR-OHV*	RE-36		10	Y		1	226
6-21	REPAIR GRAYS WELL ROAD.	12/31/89	2.0		\$600,000	DPR-OHV	RE-36	7123	10	Y		1	416
6-22	CONSTRUCT CAMP PADS ALONG GRAYS WELL ROAD.	12/31/89	1.0		\$60,000	DPR-OHV	RE-36	7123	10	Y		2	221
6-23a	ESTABLISH BUTTERCUP TRASH STATION.	4/30/88 - SEE 7-25 4/30/99			\$8,000	DPR-OHV*	RE-36	7123	10	Y		1	411
6-23b	ESTABLISH GRAYS WELL TRASH STATION.	4/30/88 - SEE 7-25 4/30/99			\$8,000	DPR-OHV*	RE-36	7123	10	Y		1	411
6-23c	ESTABLISH GORDONS WELL TRASH STATION.	4/30/88 - SEE 7-25 4/30/99			\$8,000	DPR-OHV*	RE-36	7123	10	Y		1	411
7-3	ADD ONE RANGER.	6/1/87 - 9/30/99	SEE 7-4	\$4,000		BLM	RE-36	4333	12	Y		5	476
7-4	ADD 360 HOURS OF PATROL TIME.	9/30/88 - 9/30/99	0.2			BLM	WL-20	4352	12	N			476
			0.2			BLM	WI-9	4332	10	Y			476
			1.5			BLM	RE-36	4333	12	Y			476
			0.2			BLM	CR-1	4331	13	N			476
7-12	HIRE TWO SEASONAL REC. TECHS.	4/30/88 - 4/30/99	7.0	\$20,000		DPR-OHV*	RE-36	7123	10	N		1	656

MANAGEMENT ;-----PRESCRIPTION-----;		DATE	PROJECTED	PROJECTED		;----- ADMINISTRATIVE PURPOSES -----;						
NUMBER	ACTION	COMPLETE	WORK MONTHS	MATERIAL COST	CONTRACT VALUE	FUNDING SOURCE	DEC. NUM.	SUB- ACT.	PROG. ELEM.	FMS RPT	UNIT NUM.	UNIT LABEL
7-13	ALLOCATE 1,200 HOURS OF REC. TECH TIME.	4/30/88 - 4/30/92	7.0			DPR-OHV*	RE-36	7123	10	Y	50	606
7-14	HIRE FOUR INTERMITTENT RECH. TECHS.	4/30/88 - 4/30/99	4.0	\$3,000		DPR-OHV*	RE-36	7123	10	Y	50	606
7-24	ADD ONE SEASONAL MAINT. WORKER.	4/30/88 - 4/30/99	SEE 7-25	\$11,000		DPR-OHV*	RE-36	7123	10	Y	2	411
7-25	ALLOCATE 1,200 HOURS OF MAINT. TIME.	4/30/88 - 4/30/92			\$3,000	8LM	RE-36	4712	11	Y	1	381
			1.0		\$4,000	8LM	RE-36	4712	11	Y	2	411
				\$3,000		8LM	RE-36	4712	11	Y	1	612
			8.0		\$23,000	DPR-OHV*	RE-36	7123	10	Y	2	411
7-32	ESTABLISH DUNES PATROL.	1/1/86 - 9/30/99	2.0			DPR-OHV*	RE-36	7123	10	Y	200	476
7-33	VOLUNTEER RECRUITMENT.	9/30/86 - 9/30/99	0.5			8LM	RE-36	4333	10	N	1	246
8-4	CONSIDER CONCESSION PERMITS.	1/1/87 - 9/30/99	0.2	\$200		8LM	M0-33	4212	21	Y	20	681
9-1	GLAMIS ROAD EASEMENT.	9/30/89	1.5	\$5,000		DPR-OHV	RE-36	7123	10	Y	2	106
9-2	ACQUIRE OSBORN PARK.	6/1/88	SEE 5-4									
9-3	ACQUIRE GRAYS WELL ROAD.	9/30/89	0.3			8LM	RE-36	4333	10	Y	1	106
9-8a	ACQUIRE SEC. 36 (PARTIAL), T. 13 S., R. 17 E.	5/1/88	0.3	(EXCHANGE)		8LM	M0-33	4212	12	Y	1	111
9-8b	ACQUIRE SEC. 36, T. 13 S., R. 17 1/2 E.	5/1/88	0.3	(EXCHANGE)		8LM	M0-33	4212	12	Y	1	111
9-8c	ACQUIRE SEC. 16 T. 14 S., R. 18 E.	5/1/88	0.3	(EXCHANGE)		8LM	M0-33	4212	12	Y	1	111
9-8d	ACQUIRE SEC. 36 T. 12 S., R. 16 E.	5/1/88	0.3	(EXCHANGE)		8LM	M0-33	4212	12	Y	1	111

MANAGEMENT PRESCRIPTION NUMBER	ACTION	DATE PROJECTED COMPLETE	PROJECTED WORK MONTHS	PROJECTED MATERIAL COST	CONTRACT VALUE	FUNDING SOURCE	ADMINISTRATIVE PURPOSES					UNIT NUM.	UNIT LABEL
							DEC. NUM.	SUB- ACT.	PROG. ELEM.	FMS RPT			
9-9	ACQUIRE NE 1/4 SEC. 36, T. 13 S., R. 17 E.	5/1/88	0.3	(EXCHANGE)		BLM	MO-33	4212	13	Y	1	111	
9-10a	ACQUIRE SEC. 36, T. 12 S., R. 16 E.	5/1/88	0.3	(EXCHANGE)		BLM	MO-33	4212	12	Y	1	111	
9-10b	ACQUIRE SEC. 36, T. 17 S., R. 17 E.	5/1/88	0.3	(EXCHANGE)		BLM	MO-33	4212	12	Y	1	111	
9-10c	ACQUIRE SEC. 36, T. 14 S., R. 18 E.	5/1/88	0.3	(EXCHANGE)		BLM	MO-33	4212	12	Y	1	111	
LEVEL 3													
1-12	VEHICLE CORRIDOR- COACHELLA CANAL.	9/30/90	0.5	\$2,000		BLM	RE-36	4333	13	Y	1	611	
1-13	HIKER/ EQUESTRIAN TRAILHEAD.	9/30/91	1.0	\$5,000	\$3,000	BLM	RE-36	2120	10	Y	1	221	
3-13	LEVEL 3 BASELINE STUDIES.	9/30/90	1.7	\$1,000	\$4,400	DPR-OHV	WL-20	7123	10	Y	1	361	
3-14	LEVEL 3 MONITORING STUDIES.	9/30/91 9/30/93 9/30/95 9/30/97 9/30/99	0.8		\$5,000	DPR-OHV	WL-20	7123	10	Y	1	451	
3-15	POST CLOSURES WITH MAX. INTERVAL OF 300 FT.	9/30/92	0.7	\$3,000		BLM	RE-36	4333	13	Y	1	611	
4-7	WSA THEME IN INTERPRETATION SIGNS.	9/30/91	0.1			BLM	WI-9	4332	10	Y	1	611	
5-15	SENSITIVE RESOURCE BROCHURE.	9/30/90	0.5 0.5 0.5	\$1,000 \$1,000 \$2,000		BLM BLM BLM	WL-9 CR-6 RE-36	4352 4331 4333	12 13 12	N N Y	  1	  351	
5-16a	SOUTH GLAMIS RESOURCE PROTECTION SIGN.	9/30/91	0.1	\$500		DPR-OHV	RE-36	7123	10	Y	1	356	

MANAGEMENT  -----PRESCRIPTION-----  NUMBER ACTION	DATE PROJECTED COMPLETE	PROJECTED WORK MONTHS	PROJECTED MATERIAL COST	CONTRACT VALUE	FUNDING SOURCE	----- ADMINISTRATIVE PURPOSES -----					
						DEC. NUM.	SUB- ACT.	PROG. ELEM.	FMS RPT	UNIT NUM.	UNIT LABEL
5-16b DUNE BUGGY FLATS RES. PROT. SIGN.	9/30/91	0.1	\$500		DPR-OHV	RE-36	7123	10	Y	1	356
5-17a GLAMIS OHV SAFETY SIGNS (2).	9/30/91	0.1	\$1,000		DPR-OHV	RE-36	7123	10	Y	1	356
5-17b BUTTERCUP OHV SAFETY SIGN.	9/30/91	0.1	\$500		DPR-OHV	RE-36	7123	10	Y	1	356
5-17c GRAYS WELL OHV SAFETY SIGN.	9/30/91	0.1	\$500		DPR-OHV	RE-36	7123	10	Y	1	356
5-17d DUNE BUGGY FLATS OHV SAFETY SIGN.	9/30/91	0.1	\$500		DPR-OHV	RE-36	7123	10	Y	1	356
5-18a WEST GLAMIS BROCHURE BOX.	9/30/92	0.3	\$50		BLM	RE-36	4333	12	Y	1	351
5-18b SOUTH GLAMIS BROCHURE BOX.	9/30/92	SEE 5-18a	\$50		BLM	RE-36	4333	12	Y	1	351
5-18c BUTTERCUP BROCHURE BOX.	9/30/92	SEE 5-18a	\$50		BLM	RE-36	4333	12	Y	1	351
5-18d GRAYS WELL BROCHURE BOX.	9/30/92	SEE 5-18a	\$50		BLM	RE-36	4333	12	Y	1	351
5-18e DUNE BUGGY FLATS BROCHURE BOX.	9/30/92	SEE 5-18a	\$50		BLM	RE-36	4333	12	Y	1	351
6-5 SECOND PUBLIC RESTROOM - CAHUILLA R.S.	9/30/90	1.0	\$1,000	\$10,000	DPR-OHV	RE-36	7123	10	Y	1	221
6-6 CAHUILLA R.S. PUBLIC PHONE.	9/30/90	1.0	\$1,000	\$10,000	DPR-OHV	RE-36	7123	10	Y	1	221
6-7 NEW GECKO PARKING PADS.	9/30/91	1.0	\$1,000	\$40,000	DPR-OHV	RE-36	7123	10	Y	1	221
6-8 GECKO VENDOR PAD.	9/30/91	1.0	\$1,000	\$20,000	BLM	MO-33	2120	10	Y	1	221
6-13 SOUTH GLAMIS TOILETS.	9/30/92	1.0	\$1,000	\$200,000	DPR-OHV	RE-36	7123	10	Y	2	221
6-14 WEST GLAMIS ACCESS RAMP.	9/30/90	2.0	\$1,000	\$50,000	DPR-OHV	RE-36	7123	10	Y	1	221

MANAGEMENT		DATE	PROJECTED	PROJECTED		ADMINISTRATIVE PURPOSES						
PRESCRIPTION		PROJECTED	WORK	MATERIAL	CONTRACT	FUNDING	DEC.	SUB-	PROG.	FMS	UNIT	UNIT
NUMBER	ACTION	COMPLETE	MONTHS	COST	VALUE	SOURCE	NUM.	ACT.	ELEM.	RPT	NUM.	LABEL
6-15	WEST GLAMIS TOILETS.	9/30/92	1.0	\$1,000	\$100,000	DPR-OHV	RE-36	7123	10	Y	1	221
6-16	WEST GLAMIS TRASH STATION.	9/30/91 - SEE 7-28 9/30/99			\$8,000	DPR-OHV	RE-36	7123	10	Y	1	411
6-17	SOUTH GLAMIS TRASH STATIONS.	9/30/91 - SEE 7-28 9/30/99			\$16,000	DPR-OHV	RE-36	7123	10	Y	1	411
6-24	BUTTERCUP WATER.	9/30/91	1.0	\$1,000	\$30,000	DPR-OHV	RE-36	7123	10	Y	1	221
6-25	BUTTERCUP PUBLIC PHONE.	9/30/90	1.0	\$1,000	\$5,000	DPR-OHV	RE-36	7123	10	Y	1	221
6-26	BUTTERCUP TOILETS.	9/30/91	1.0	\$1,000	\$100,000	DPR-OHV	RE-36	7123	10	Y	1	221
6-27	GRAYS WELL TOILETS.	9/30/91	1.0	\$1,000	\$100,000	DPR-OHV	RE-36	7123	10	Y	1	221
6-28	DUNE BUGGY FLATS ACCESS ROAD, BRIDGE.	9/30/92	3.0	\$4,000	\$1,000,000	DPR-OHV	RE-36	7123	10	Y	1	226
6-29	DUNE BUGGY FLATS TOILETS.	9/30/93	1.0	\$1,000	\$100,000	DPR-OHV	RE-36	7123	10	Y	1	221
7-5	ADD ONE BLM RANGER.	9/30/92 - SEE 7-6 9/30/99		\$4,000		BLM	RE-36	4333	12	Y	50	476
7-6	ADD 800 HRS. PATROL TIME.	9/30/92 - 9/30/99	1 1 2 1			BLM BLM BLM BLM	WL-20 WI-9 RE-36 CR-1	4352 4332 4333 4331	12 10 12 13	N Y Y N	10 10 20 10	476 476 476 476
7-15	ADD TWO SEASONAL REC. TECHS.	9/30/92 - 9/30/99	7.0	\$20,000		DPR-OHV	RE-36	7123	10	Y	50	606
7-16	ALLOCATE 2,400 HRS. REC. TECH. TIME.	9/30/92 - 4-30/96	14.0			DPR-OHV	RE-36	7123	10	Y	50	606
7-21	ADD ONE ORP.	9/30/90 - 9/30/99	4.0	\$3,000		BLM	RE-36	4333	11	Y	300	686
7-26	ADD ONE FULL-TIME MAINT. WORKER.	9/30/92 - 9/30/99	6.0	\$5,000		BLM BLM BLM BLM	RE-36 RE-36 RE-36 RE-36	4712 4712 4712 4712	11 11 11 11	Y Y Y Y	1 1 1 1	381 411 416 612

MANAGEMENT  -----PRESCRIPTION-----		DATE	PROJECTED	PROJECTED			----- ADMINISTRATIVE PURPOSES -----					
NUMBER	ACTION	COMPLETE	WORK MONTHS	MATERIAL COST	CONTRACT VALUE	FUNDING SOURCE	DEC. NUM.	SUB- ACT.	PROG. ELEM.	FMS RPT	UNIT NUM.	UNIT LABEL
7-27	ADD ONE SEASONAL MAINT. WORKER.	9/30/91 - 9/30/99	SEE 7-2B	\$11,000		DPR-OHV	RE-36	7123	10	Y	2	411
7-2B	ALLOCATE 2,600 HRS. MAINT. TIME.	9/30/91 -	16.0		\$34,000	DPR-OHV	RE-36	7123	10	Y	2	411
		9/30/96	1.0		\$5000	BLM	RE-36	4712	11	Y	1	381
			2.0		\$12,000	BLM	RE-36	4712	11	Y	1	411
			1.0	\$5,000		BLM	RE-36	4712	11	Y	1	612
7-34	EXPAND DUNES PATROL TO BUTTERCUP.	9/30/92 -	2.0	\$10,000		DPR-OHV	RE-36	7123	10	Y	100	476
		9/30/99				BLM	RE-36	4333	12	Y	15	476
B-5	DESIGNATE VENDOR AREAS.	9/30/91	1.0	\$800		BLM	RE-36	4333	11	Y	20	686
B-6	CONSIDER CONCESSION LEASES.	9/30/90	2.0	\$1,000		BLM	RE-36	4333	11	Y	1	376
B-7	DESIGNATE GRAYS WELL CONCESSION ZONE.	9/30/91	1.0	\$1,500		BLM	RE-36	4333	11	Y	1	376
9-4	HIKER TRAILHEAD PERMIT.	1/30/91	1.0	\$500		BLM	RE-36	4333	10	Y	1	106
9-5	DUNE BUGGY FLATS CANAL BRIDGE PERMIT.	9/30/91	1.0	\$500		BLM	RE-36	4333	10	Y	1	106
9-11	ACQUIRE SECS. 5, 9, 15, 16, 17, T. 12 S., R. 16 E.	9/30/93	2.0	(EXCHANGE)		BLM	MO-33	4212	13	Y	1	111
9-12	ACQUIRE SEC. 16, T. 13 S., R. 17 E.	9/30/93	2.0	(EXCHANGE)		BLM	MO-33	4212	24	Y	1	116
LEVEL 4												
3-16	LEVEL 4 MONITORING STUDIES.	SEE 3-9 AND 3-14										
3-17	MAMMOTH WASH TRAFFIC COUNTER.	9/30/96	0.1	\$800		BLM	RE-36	4333	12	Y	1	451
5-19	MAMMOTH WASH BROCHURE BOX	9/30/96	0.1	\$50		BLM	RE-36	4333	12	Y	1	351

MANAGEMENT !-----PRESCRIPTION-----! NUMBER	ACTION	DATE PROJECTED COMPLETE	PROJECTED WORK MONTHS	PROJECTED MATERIAL COST	CONTRACT VALUE	FUNDING SOURCE	!----- ADMINISTRATIVE PURPOSES -----! DEC. SUB- PROG. FMS UNIT UNIT NUM. ACT. ELEM. RPT NUM. LABEL					
5-20	MAMMOTH OHV SAFETY SIGNS.	9/30/96	0.1	\$500		DPR-OHV	RE-36	7123	10	Y	1	356
5-21	MAMMOTH RESOURCE PROTECTION SIGNS.	9/30/96	0.1	\$500		BLM	RE-36	4333	10	Y	1	356
6-9	ADD TOILETS GECKO ROAD.	9/30/94	1.0	\$1,000	\$200,000	DPR-OHV	RE-36	7123	10	Y	2	221
6-10	GECKO DUMP STATION.	9/30/95	1.0	\$1,000	\$60,000	DPR-OHV	RE-36	7123	10	Y	1	221
6-18	ADD TOILETS SOUTH GLAMIS.	9/30/95	1.0	\$1,000	\$200,000	DPR-OHV	RE-36	7123	10	Y	2	221
6-19	GLAMIS DUMP STATION.	9/30/95	1.0	\$1,000	\$60,000	DPR-OHV	RE-36	7123	10	Y	1	221
6-30	BUTTERCUP DUMP STATION.	9/30/95	1.0	\$1,000	\$60,000	DPR-OHV	RE-36	7123	10	Y	1	221
6-34	EXTEND MONTGOMERY ROAD.	9/30/95	4.0	\$4,000	\$2,000,000	DPR-OHV	RE-36	7123	10	Y	1	226
6-35	MAMMOTH CAMPER PARKING.	9/30/96	1.0	\$1,000	\$40,000	DPR-OHV	RE-36	7123	10	Y	1	221
6-36	MAMMOTH TOILETS.	9/30/96	1.0	\$1,000	\$100,000	DPR-OHV	RE-36	7123	10	Y	1	221
6-37	MAMMOTH TRASH STATION.	4/30/97 - SEE 7-30 4/30/99			\$8,000	DPR-OHV	RE-36	7123	10	Y	1	411
6-38	MAMMOTH PUBLIC PHONE.	9/30/96	1.0	\$1,000	\$10,000	DPR-OHV	RE-36	7123	10	Y	1	221
7-7	ADD ONE BLM RANGER.	9/30/95 - SEE 7-8 9/30/99		\$4,000		BLM	RE-36	4333	12	Y	31	476
7-8	ADD 500 HOURS PATROL TIME.	9/30/95 - 9/30/99	0.5 1.0 1.0 0.5			BLM BLM BLM BLM	WL-20 WI-9 RE-36 CR-1	4352 4332 4333 4331	12 10 12 5	N Y Y N	5 10 11 5	476 476 476 476
7-17	ADD ONE SEASONAL REC. TECH.	9/30/96 - 4/30/99	3.5	\$10,000		DPR-OHV	RE-36	7123	10	Y	25	606
7-18	ALLOCATE 3,000 HRS. REC. TECH. TIME.	9/30/96 - 4/30/99	17.5			DPR-OHV	RE-36	7123	10	Y	25	606

MANAGEMENT ;-----PRESCRIPTION-----; NUMBER ACTION	DATE PROJECTED COMPLETE	PROJECTED WORK MONTHS	PROJECTED MATERIAL COST	CONTRACT VALUE	FUNDING SOURCE	;----- ADMINISTRATIVE PURPOSES -----;					
						DEC. NUM.	SUB- ACT.	PROG. ELEM.	FMS RPT	UNIT NUM.	UNIT LABEL
7-29	ADD ONE SEASONAL MAINT. WORKER.	9/30/96 - SEE 7-30 9/30/99	\$11,000		DPR-OHV	RE-36	4712	11	Y	1	381
7-30	ALLOCATE 2,900 HRS. MAINT. TIME.	9/30/96 - 24.0 9/30/99 1.0 3.0		\$41,000 \$6,000 \$18,000	DPR-OHV BLM BLM BLM	RE-36 RE-36 RE-36 RE-36	7123 4712 4712 4712	10 11 11 11	Y Y Y Y	3 1 1 1	411 381 411 612
7-35	EXPAND DUNES PATROL TO MAMMOTH.	9/30/96 - 9/30/99 1.0	\$5,000		DPR-OHV BLM	RE-36 RE-36	7123 4333	10 12	Y Y	50 10	476 476
8-B	DESIGNATE GECKO CONCESSION ZONE.	9/30/95	1.5	\$2,000	BLM	RE-36	4333	11	Y	1	376
8-9	DESIGNATE SOUTH GLAMIS CONCESSION ZONE.	9/30/95	1.5	\$2,000	BLM	RE-36	4333	11	Y	1	376
8-10	DESIGNATE MAMMOTH CONCESSION ZONE.	9/30/96	2.0	\$2,500	BLM	RE-36	4333	11	Y	1	376
9-6	MONTGOMERY ROAD EASEMENT.	9/30/94	2.5	\$3,000	DPR-OHV	RE-36	7123	10	Y	2	106
9-13a	ACQUIRE SEC. 36, T. 14 S., R. 18 E.	9/30/96	1.5	(EXCHANGE)	BLM	MO-33	4212	24	Y	1	116
9-13b	ACQUIRE SECS. 28, 33, 34, T. 15 S., R. 20 E.	9/30/96	4.0	(EXCHANGE)	BLM	MO-33	4212	24	Y	1	116
9-13c	ACQUIRE SEC. 16, T. 15 S., R. 19 E.	9/30/96	2.0	(EXCHANGE)	BLM	MO-33	4212	24	Y	1	116
LEVEL 5											
3-1B	MAINTAIN MONITORING STUDIES.	SEE 3-9 AND 3-14.									
6-31	EXTEND GRAYS WELL ROAD WEST.	9/30/98	4.0	\$5,000	2,000,000	DPR-OHV	RE-36	7123	10	Y	1 451
6-32	DESIGNATE GORDONS WELL OVERPASS FOR OHV USE	9/30/98	3.0			BLM	RE-36	4333	10	N	1 246

MANAGEMENT		DATE	PROJECTED	PROJECTED	ADMINISTRATIVE PURPOSES							
PRESCRIPTION		PROJECTED	WORK	MATERIAL	CONTRACT	FUNDING	DEC.	SUB-	PROG.	FMS	UNIT	UNIT
NUMBER	ACTION	COMPLETE	MONTHS	COST	VALUE	SOURCE	NUM.	ACT.	ELEM.	RPT	NUM.	LABEL
6-33	DESIGNATE OHV CORRIDOR OVER I-8 AND ALL-AMERICAN CANAL.	9/30/98		\$10,000		DPR-OHV	RE-36	7123	10	Y	1	611
7-9	ADD ONE BLM RANGER.	9/30/98 - SEE 7-10 9/30/99		\$4,000		BLM	RE-36	4333	12	Y	31	476
7-10	ADD 500 HRS. PATROL TIME.	9/30/98 - 9/30/99	0.5 1.0 1.0 0.5			BLM BLM BLM BLM	WL-20 WI-9 RE-36 CR-1	4352 4332 4333 4331	12 10 12 13	N Y Y N	5 10 11 5	476 476 476 476
9-7	GRAYS WELL BRIDGE PERMIT.	9/30/97	1.0	\$500		BLM	RE-36	4333	10	Y	1	106

## B. Cost Estimates

Table 9 presents five separate cost estimates, one for each funding level. The estimate for each level is the complete cost of implementation of that level. The totals for each level should not be added, because the estimate for each level already includes the cost of all lower levels. The total cost for all prescriptions is represented by the Level 5 total.

The cost estimates are entirely in 1986 dollars. Inflation is not considered. Actual costs will therefore be higher, since inflation is expected to average 5% per year during the life of the plan.

The table identifies the proposed funding source and shows four broad categories of types of expenditures:

### Operations and Maintenance (OM)

This includes all operations and maintenance costs, and includes the cost of Ranger patrol and signing in addition to costs of other operational staff.

### Resource Protection (RP)

This includes all special resource protection projects, including baseline data and monitoring studies. However, it does not include costs of resource protection enforcement, which are shown in the OM totals.

### Development (DEV)

This shows all costs related to facility development. Interpretive signing projects are considered development projects.

### Acquisition (A)

This indicates all costs related to acquiring lands or easements within the recreation area.

State OHV projects currently funded are indicated by an asterisk (\*).

TABLE 9 ESTIMATED PLAN COST BY YEAR AT EACH FUNDING LEVEL

LEVEL 1

<u>YEAR</u>	<u>FUNDING SOURCE</u>	<u>COST</u>	<u>TYPE</u>
1987	BLM	\$ 77,400	OM
1988	BLM	67,150	OM
1989	BLM	63,400	OM
1990	BLM	67,150	OM
1991	BLM	63,400	OM
1992	BLM	63,400	OM
1993	BLM	67,150	OM
1994	BLM	63,400	OM
1995	BLM	63,400	OM
1996	BLM	67,150	OM
1997	BLM	63,400	OM
1998	BLM	63,400	OM
1999	BLM	<u>67,150</u>	OM
<u>LEVEL 1 TOTAL, 1987-1999:</u>		\$856,950	

LEVEL 2

<u>YEAR</u>	<u>FUNDING SOURCE</u>	<u>COST</u>	<u>TYPE</u>
1987	BLM	\$103,650	OM
	OHV*	16,000	OM
	OHV*	<u>62,000</u>	RP
	TOTAL	181,650	
1988	BLM	105,200	OM
	BLM	38,500	RP
	BLM	2,000	DEV
	BLM	6,000	A
	OHV*	157,000	OM
	OHV*	<u>1,531,000</u>	DEV
	TOTAL	\$1,839,700	
1989	BLM	\$102,650	OM
	OHV*	172,000	OM
	OHV	57,000	RP
	OHV	667,500	DEV
	OHV	<u>8,750</u>	A
	TOTAL	\$1,007,900	

LEVEL 2 (continued)

<u>YEAR</u>	<u>FUNDING SOURCE</u>	<u>COST</u>	<u>TYPE</u>
1990	BLM	100,100	OM
	OHV*	<u>172,750</u>	OM
	TOTAL	272,100	
1991	BLM	96,350	OM
	BLM	24,750	RP
	OHV	172,750	OM
	OHV	<u>30,750</u>	RP
	TOTAL	324,600	
1992	BLM	96,350	OM
	OHV	<u>172,750</u>	OM
	TOTAL	269,100	
1993	BLM	100,100	OM
	OHV	172,750	OM
	OHV	<u>30,750</u>	RP
	TOTAL	\$303,600	
1994	BLM	96,350	OM
	BLM	24,750	RP
	OHV	<u>172,750</u>	OM
	TOTAL	\$293,850	
1995	BLM	96,350	OM
	OHV	172,750	OM
	OHV	<u>30,750</u>	RP
	TOTAL	\$299,850	
1996	BLM	100,100	OM
	OHV	<u>172,750</u>	OM
	TOTAL	\$272,850	

LEVEL 2 (continued)

<u>YEAR</u>	<u>FUNDING SOURCE</u>	<u>COST</u>	<u>TYPE</u>
1997	BLM	96,350	OM
	BLM	24,750	RP
	OHV	172,750	OM
	OHV	<u>30,750</u>	RP
	TOTAL	\$324,600	
1998	BLM	96,350	OM
	OHV	<u>172,750</u>	OM
	TOTAL	\$269,100	
1999	BLM	100,100	OM
	OHV	172,750	OM
	OHV	<u>30,750</u>	RP
	TOTAL	\$303,600	
<u>LEVEL 2 TOTAL, 1987-1999</u>		\$5,962,500	

LEVEL 3

<u>YEAR</u>	<u>FUNDING SOURCE</u>	<u>COST</u>	<u>TYPE</u>
1987-1991	(SAME AS FOR LEVEL 2)		
1990	BLM	126,850	OM
	BLM	3,250	DEV
	OHV*	172,750	OM
	OHV	9,650	RP
	OHV	<u>91,500</u>	DEV
	TOTAL	\$404,000	
1991	BLM	136,150	OM
	BLM	28,500	RP
	BLM	37,000	DEV
	OHV	318,750	OM
	OHV	37,750	RP
	OHV	<u>289,000</u>	DEV
	TOTAL	\$847,150	

LEVEL 3 (continued)

<u>YEAR</u>	<u>FUNDING SOURCE</u>	<u>COST</u>	<u>TYPE</u>
1992	BLM	168,850	OM
	BLM	4,750	RP
	OHV	383,750	OM
	OHV	<u>1,316,000</u>	DEV
	TOTAL	\$1,873,350	
1993	BLM	171,600	OM
	BLM	10,000	A
	OHV	383,750	OM
	OHV	37,750	RP
	OHV	<u>103,500</u>	DEV
	TOTAL	\$706,000	
1994	BLM	167,850	OM
	BLM	24,750	RP
	OHV	<u>383,750</u>	OM
	TOTAL	\$576,350	
1995	BLM	167,850	OM
	OHV	383,750	OM
	OHV	<u>37,750</u>	RP
	TOTAL	\$589,350	
1996	BLM	171,600	OM
	OHV	<u>383,750</u>	OM
	TOTAL	\$555,350	
1997	BLM	167,850	OM
	OHV	383,750	OM
	OHV	<u>37,750</u>	RP
	TOTAL	\$589,350	
1998	BLM	167,850	OM
	OHV	<u>383,750</u>	OM
	TOTAL	\$551,600	

Page 124: The second line below "LEVEL 3" should read:

1987-1989

(SAME AS FOR LEVEL 2)

Page 125: The correct total for 1993 is \$706,600.

LEVEL 3 (continued)

<u>YEAR</u>	<u>FUNDING SOURCE</u>	<u>COST</u>	<u>TYPE</u>
1999	BLM	171,600	OM
	OHV	383,750	OM
	OHV	<u>37,750</u>	RP
	TOTAL	\$593,100	

LEVEL 3 TOTAL, 1987-1999: \$10,315,450

LEVEL 4

<u>YEAR</u>	<u>FUNDING SOURCE</u>	<u>COST</u>	<u>TYPE</u>
1987 - 1993	(SAME AS FOR LEVEL 3)		
1994	BLM	167,850	OM
	BLM	24,750	RP
	OHV	383,750	OM
	OHV	201,000	DEV
	OHV	<u>3,000</u>	A
	TOTAL	\$780,350	
1995	BLM	190,850	OM
	OHV	383,750	OM
	OHV	37,750	RP
	OHV	<u>2,408,000</u>	DEV
	TOTAL	\$3,020,350	
1996	BLM	197,100	OM
	BLM	1,050	RP
	BLM	1,050	DEV
	BLM	18,750	A
	OHV	451,750	OM
	OHV	<u>162,000</u>	DEV
	TOTAL	\$ 831,700	

LEVEL 4 (continued)

<u>YEAR</u>	<u>FUNDING SOURCE</u>	<u>COST</u>	<u>TYPE</u>
1997	BLM	190,850	OM
	OHV	459,750	OM
	OHV	<u>37,750</u>	RP
	TOTAL	\$688,350	
1998	BLM	190,850	OM
	OHV	<u>459,750</u>	OM
	TOTAL	\$650,600	
1999	BLM	194,600	OM
	OHV	459,750	OM
	OHV	<u>37,750</u>	RP
	TOTAL	\$692,000	
<u>LEVEL 4 TOTAL, 1987-1999</u>		\$13,523,700	

LEVEL 5

<u>YEAR</u>	<u>FUNDING SOURCE</u>	<u>COST</u>	<u>TYPE</u>
1987 - 1996	(SAME AS LEVEL 4)		
1997	BLM	190,850	OM
	BLM	3,000	DEV
	OHV	459,750	OM
	OHV	<u>37,750</u>	RP
	TOTAL	\$691,350	
1998	BLM	202,300	OM
	BLM	7,500	DEV
	OHV	459,750	OM
	OHV	<u>2,025,000</u>	DEV
	TOTAL	\$2,694,550	

LEVEL 5 (continued)

<u>YEAR</u>	<u>FUNDING SOURCE</u>	<u>COST</u>	<u>TYPE</u>
1999	BLM	206,100	OM
	OHV	459,750	OM
	OHV	<u>37,750</u>	RP
	TOTAL	\$703,600	
<u>LEVEL 5 TOTAL, 1987-1999</u>		\$15,582,250	

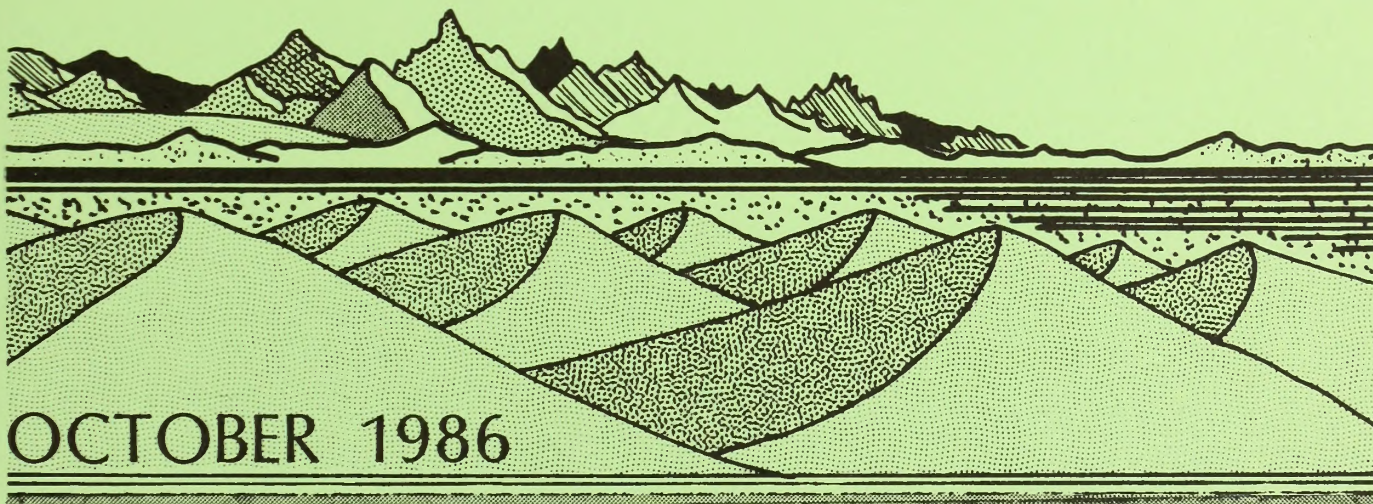
# ENVIRONMENTAL ASSESSMENT

for the

## IMPERIAL SAND DUNES

### RECREATION AREA MANAGEMENT PLAN

**DRAFT**



OCTOBER 1986



Department of the Interior  
BUREAU OF LAND MANAGEMENT  
El Centro Resource Area, California



# **ENVIRONMENTAL ASSESSMENT**

## **for the**

### **Imperial Sand Dunes**

#### **RECREATION AREA**

#### **MANAGEMENT PLAN**

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U.S. Department of the Interior  
Bureau of Land Management  
California Desert District  
El Centro Resource Area

Prepared by: \_\_\_\_\_

Lead Outdoor Recreation Planner

\_\_\_\_\_  
Date

Recommended by: \_\_\_\_\_

Chief, Branch of Resource Program Operations

\_\_\_\_\_  
Date

Approved by: \_\_\_\_\_

Area Manager, El Centro Resource Area

\_\_\_\_\_  
Date



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# CHAPTER 1

## Introduction

The first part of the book is devoted to a general introduction to the subject of the book. It is divided into two main parts: the first part is devoted to a general introduction to the subject of the book, and the second part is devoted to a more detailed introduction to the subject of the book.

The second part of the book is devoted to a more detailed introduction to the subject of the book. It is divided into two main parts: the first part is devoted to a more detailed introduction to the subject of the book, and the second part is devoted to a more detailed introduction to the subject of the book.

The third part of the book is devoted to a more detailed introduction to the subject of the book.

The fourth part of the book is devoted to a more detailed introduction to the subject of the book. It is divided into two main parts: the first part is devoted to a more detailed introduction to the subject of the book, and the second part is devoted to a more detailed introduction to the subject of the book.

The fifth part of the book is devoted to a more detailed introduction to the subject of the book. It is divided into two main parts: the first part is devoted to a more detailed introduction to the subject of the book, and the second part is devoted to a more detailed introduction to the subject of the book.

The sixth part of the book is devoted to a more detailed introduction to the subject of the book. It is divided into two main parts: the first part is devoted to a more detailed introduction to the subject of the book, and the second part is devoted to a more detailed introduction to the subject of the book.



## CHAPTER 1

### INTRODUCTION

This Environmental Assessment (EA) presents possible environmental consequences of the proposed Imperial Sand Dunes Recreation Area Management Plan (RAMP) and two alternative management programs for the recreation area. This document is the first part of a two-phase environmental review process required by the National Environmental Policy Act of 1969. The purpose of this EA is to analyze the overall consequences of the proposed management program and alternatives. This document also presents means of mitigating impacts resulting from proposed facility development and recreation uses. Additional site-specific EAs will be prepared prior to implementation for individual development projects proposed by the plan.

The Recreation Area is located in east-central Imperial County, approximately 40 miles east of El Centro, 22 miles east of Brawley, and 20 miles west of Yuma, Arizona (see RAMP Map 1, Regional Location, page 2).

#### PURPOSE AND NEED FOR THE PROPOSED ACTION

The purpose of the Imperial Sand Dunes RAMP is to provide BLM managers with guidance in implementing provisions of the California Desert Plan within the recreation area (See RAMP Map 2, page 3). The RAMP is intended to translate the broad guidance of the Desert Plan into specific proposals which will be further developed through the site planning process. As such, the RAMP is intermediate in detail between the Desert Plan and individual site plans, which are prepared prior to the development of facilities.

The Recreation Element of the Desert Plan directs that planned recreation actions such as facility development, erection of signs, establishment of visitor services and resource protection programs, as well as measures to minimize environmental impacts, will be implemented primarily through the RAMP and site plan processes. In addition, nationwide Bureau of Land Management policy is to prepare RAMPs for all special recreation management areas such as the Imperial Sand Dunes.

The first RAMP for the Imperial Dunes was prepared in 1972. That plan predates the Desert Plan and is largely obsolete. The proposed RAMP is necessary to provide BLM with a strategy for utilizing the Desert Plan to meet the challenge of ever-increasing recreational demand while protecting sensitive resources in the dunes through the year 2000.

## ISSUE IDENTIFICATION (Scoping)

The Council on Environmental Quality Regulations Implementing the National Environmental Policy Act (40 CFR Part 1501.7) and the BLM planning regulations (43 CFR 1610.4-1) require an early and open process for determining the scope of issues to be addressed and for identifying the significant issues related to a proposed action. Scoping determines in depth the scope and the significant issues to be analyzed in the EA and identifies and eliminates from detailed study insignificant issues or issues addressed in earlier environmental reviews. Scoping thus reduces the length of the EA and emphasizes the real alternatives and impacts of importance to be discussed. During this process, the scope and importance of issues related to the proposed action and alternatives were identified. Information obtained during the scoping process was one of the sources used to determine which impact topics would be addressed in detail in this EA. Additional purposes of the scoping process are to inform affected Federal, State, and local agencies and other interested parties about the proposed project, and to identify existing environmental reports and information related to the impact assessment.

The scoping process involved discussions with the public, and resource specialists and managers of BLM and other relevant agencies. Written comments were received and compiled as a result of news releases, mailings, and public meetings. This section outlines the steps taken by BLM for the scoping and public involvement process for the RAMP and EA.

## ISSUE IDENTIFICATION PROCESS

The El Centro Resource Area conducted a series of four public planning workshops on the Imperial Sand Dunes in April 1985. The workshops were announced in a letter sent to 1,500 individuals, groups, and government agencies in California and Arizona, and were publicized through the news media. Attendance was as follows:

El Centro (April 15)	10
Yuma (April 16)	27
San Diego (April 17)	51
Riverside (April 22)	49
TOTAL	<u>137</u>

The objective of the workshops was to identify and prioritize management issues, concerns, and problems relating to the Imperial Sand Dunes. Meeting participants divided into workgroups of 10-15 persons each. Through a technique called "brainstorming," workgroup members identified as many issues,

problems, and concerns as possible in a one-hour period. The objective was to identify ideas without taking time to evaluate or criticize the ideas. Following the brainstorming sessions, group members ranked the issues using a numerical scoring method.

Written input was also solicited from those unable to attend the workshops. A total of 42 letters containing written comments on Imperial Sand Dunes management issues were received by April 30, 1985. Of the total responses, 31 came from individuals (23 from California, 8 from Arizona), 7 from organizations (5 from California, 2 from Arizona), and 4 from government agencies (3 from California State agencies, 1 from a Federal agency).

Following analysis of workshop results and the 42 letters on issues, a planning workbook was developed and sent in late May 1985 to all workshop participants and those who sent letters on issues. The purpose of the workbook was to solicit more detailed responses from those who had participated in the initial scoping process, and to seek specific suggestions on actions to resolve the issues.

Following analysis of the 33 workbook responses (26 from individuals, 2 from state agencies, and 5 from organizations), a list of environmental issues identified by the public was developed. BLM managers and staff reviewed the list and made some additions, mainly relating to specific plant or wildlife species and potential impacts to public land uses other than recreation. Of the 18 issues identified, 8 were selected for detailed analysis in the EA and 10 were dropped from further analysis. The issues and rationale for selection or non-selection are presented in the following sections.

#### ISSUES SELECTED FOR ANALYSIS

The environmental issues identified for analysis in this EA as a result of the scoping process are presented below.

1. Impact on Off-Highway Vehicle (OHV) Recreation. OHV recreation is the major recreational use of the Imperial Sand Dunes in terms of numbers of participants. OHV recreation opportunities could benefit from many of the management actions proposed in the RAMP. Other actions could restrict or limit opportunities. The significance of these beneficial or adverse impacts is an issue for analysis in the EA.
2. Impact on General (non-OHV) Recreation. The lands of the recreation area are utilized for sightseeing, hunting, rockhounding, camping, and other general recreation activities. General recreation could benefit from many of the actions proposed in the RAMP. Other actions could limit opportunities. The significance of these beneficial or adverse impacts is an issue for analysis in the EA.

3. Impact on Wilderness Values. The recreation area contains two wilderness study areas (WSAs) which have been identified as having wilderness values of naturalness, solitude, opportunities for primitive recreation, and special resource characteristics. These values could be benefited or adversely affected by uses and actions that would occur under the proposed RAMP. The significance of these beneficial or adverse impacts is an issue for analysis in the EA.
4. Impact on Burro Mule Deer Habitat. The burro mule deer utilizes habitat within the recreation area for shelter, browsing, and fawning. Water sources have been developed at seven locations for use by the deer. The deer habitat could be beneficially impacted by some proposed actions and adversely impacted by others. The significance of these impacts is an issue for analysis.
5. Impact on Couch's Spadefoot Toad. The Couch's spadefoot toad is a species of scientific interest known to occur in low areas on the east side of the recreation area. It spends most of its life underground in an inactive state, emerging after rains to reproduce. Couch's spadefoot toad habitat could be beneficially impacted by some proposed actions and adversely impacted by others. The significance of these impacts is an issue for analysis.
6. Impact on Candidate Species for Federal Listing as "Threatened" or "Endangered". Three plant species, three reptile species, and one insect species are candidates for listing as "threatened" or "endangered" by the U.S. Fish and Wildlife Service (FWS). Proposed actions could have both beneficial and adverse impacts to these species. The significance of these impacts is an issue for analysis in the EA.
7. Impact on Other Plant Species Considered Sensitive. In addition to the three plant species which are candidates for Federal listing, five other species are listed by the State of California or the California Native Plant Society (CNPS) as "rare," "endangered," or otherwise sensitive. By BLM policy, such species are considered "BLM sensitive." Proposed actions could have both beneficial and adverse impacts to these species. The significance of these impacts is an issue for analysis in the EA.
8. Impact on Private Recreation Service Businesses in Imperial County. Three recreation service businesses located on private lands within the recreation area are largely dependent on sand dunes recreational users for their livelihood. In addition, sand dunes users make a less vital

but nevertheless important contribution to service businesses in the surrounding area. Proposed actions could have both beneficial and adverse impacts to these businesses. The significance of these impacts is an issue for analysis in the EA.

#### ISSUES CONSIDERED BUT DROPPED FROM FURTHER ANALYSIS

1. Impact on Cultural Resources and Native American Values. Cultural resource occurrence within the recreation area is generally low. Proposed facility developments and concentrated recreational use zones are located within the sand dunes, which are almost devoid of cultural resources. Site-specific EAs which consider cultural resources will be prepared prior to implementation of site development projects. The Plank Road Area of Critical Environmental Concern (ACEC) Management Plan, approved in 1985, calls for measures which will protect this important historic resource even with projected increases in use. There are no known Native American concerns. For these reasons, the issue of impacts to cultural resources and Native American concerns has been dropped from further analysis in this EA.
2. General Impacts on Plant Communities and Wildlife Habitat. Except for two proposed Desert Plan amendments affecting 5,180 acres, the actions proposed by the RAMP are consistent with the classes and off-highway vehicle designations assigned by the Desert Plan. The general impacts to plants and wildlife of these designations were considered in the Environmental Impact Statement (EIS) for the Desert Plan. Impacts of the proposed Desert Plan amendments on general plant communities and wildlife habitat will be considered in an EA or EIS prepared at the time the amendments are considered through the amendment process. Site specific EAs considering impacts to all wildlife and vegetation will be prepared prior to implementation of site development projects. For these reasons, the issue of general impacts to plant communities and wildlife habitat has been dropped from further analysis in this EA.
3. Impact on Mineral Development. Potential for mineral development in the recreation area is low. Mineral development in WSAs is limited by provisions of BLM's Interim Management Policy (IMP) for lands under wilderness review. None of the actions proposed by the RAMP would change the status of the WSAs or limit development outside the WSAs. This issue is therefore dropped from further analysis.
4. Impact on Development of Energy Resources. Decisions regarding geothermal leasing in the recreation area were made in 1981 through the Glamis/Dunes Geothermal Leasing EA. The RAMP proposes no changes to those decisions.

Potential for development of oil and gas leases in the recreation area is low, and new leases are precluded within WSAs. None of the actions proposed by the RAMP would limit development of oil and gas leases outside of WSAs or otherwise change the existing situation. Therefore, this issue is dropped from further analysis.

5. Impact on Sand and Gravel Extraction. The main area of sand and gravel extraction within the recreation area is on lands east of Glamis. While the RAMP proposes some actions to enhance public safety around sand and gravel pits east of Glamis, none of these actions will have a significant effect on extraction. The RAMP does propose seasonal restrictions on blow sand extraction in intensively used Class I areas. However, demand for this sand has traditionally been low, and extraction will be permitted during low recreation use periods. For these reasons, this issue is dropped from further consideration.
6. Impact on Commercial Filming. The great majority of commercial filming permits issued for the sand dunes are for short-term use (less than 5 days), and normally take place during mid-week when recreation use is low. Issuance of such permits will not be affected by the RAMP. Occasionally (approximately one permit every 5 years), permits are issued for long-term use involving set construction and extended occupancy. Such use will be limited to sites at which disruption of recreational use can be minimized. This is not expected to have a major impact on the film industry. Therefore, this issue is dropped from further analysis.
7. Impact on Apiary Sites. Provisions of the RAMP are identical to the existing Apiary Management Plan for the El Centro Resource Area. The RAMP will therefore have no impact to apiary sites, and this issue is dropped from further analysis.
8. Impact on Mobile Vendors. No mobile vendors depend on the recreation area as their primary vending location. Vending is in most cases restricted to major weekends, except in the case of ATV rentals. Although the RAMP would heavily limit mobile vending in the Glamis area, many other vending opportunities are available within the recreation area. For these reasons, this issue is dropped from further analysis.
9. Impact on U.S. Navy Operations. The proposed RAMP is consistent with the proposed BLM/U.S. Navy Cooperative

Agreement relating to the recreation area and other public lands in Imperial County. The RAMP does not propose changes to the Cooperative Agreement or the actions proposed by 1985 Desert Plan Amendment #1. This issue is therefore dropped from further analysis.

10. Impact on U.S. Bureau of Reclamation Operations. None of the RAMP proposed actions will have an impact to Bureau of Reclamation operations. BLM must obtain Reclamation concurrence on all actions affecting lands or rights-of-way withdrawn for canals or other Reclamation operations. This concurrence and all necessary permits will be obtained before building bridges or undertaking any other projects affecting Reclamation lands. This issue is therefore dropped from further analysis.

#### SELECTION OF THE PROPOSED ACTION AND DEVELOPMENT OF ALTERNATIVES

Development of the proposed management prescriptions was guided by requirements of the BLM planning regulations (43 CFR Part 1600) and the Desert Plan. The proposed action and alternatives selected for analysis are briefly outlined below.

##### Alternative A - Proposed Action

The proposed RAMP presents an overall strategy for utilizing limited funding to meet the challenges of management in the Imperial Sand Dunes through the year 2000, within the framework of the Desert Plan. A complete description of the proposed action can be found in Part III of the Draft Imperial Sand Dunes RAMP.

Key features of the RAMP include:

1. A coordinated implementation strategy organized around five funding levels. Level 1 represents actions which will be taken in the event of a reduction in funding to below current levels. Levels 2 through 5 represent progressive levels of development, operations and maintenance staffing, resource monitoring and protection, and other actions needed to insure recreational opportunities and improve manageability. The developments proposed at any funding level will not occur unless the corresponding operations and maintenance staffing, resource monitoring, and resource protection measures of that level are also funded.

2. Linkage of major development actions with actual use levels. The plan is intended to accommodate recreation use demands through the year 2000. It is predicted that use could increase by as much as 115% to 1.7 million visitor use days (VUDs) by 2000. Some actions, including development of concession recreational vehicle (RV) parks at Mammoth Wash, near Gecko Campground, and south of Glamis, will be based on actual measured demand by 1995, as well as on available funding and private business interest. This will insure that such developments are not undertaken before they are truly needed.
3. Phased acquisition and development of access to allow optimum utilization of available Class I areas for OHV recreation as demand increases.
4. Phased development of basic sanitation (toilets and trash) and parking facilities in zones of concentrated camping use (Class I).
5. Adoption of supplementary rules and an educational program to promote public safety.
6. A public education program to increase appreciation of sensitive resources.
7. Phased implementation of a sensitive species baseline study and monitoring program, in conjunction with a habitat management plan to be completed in 1987.
8. Development of an OHV access corridor to link portions of the Buttercup Valley Open Area bisected by the All-American Canal and Interstate Highway 8. The connection will link the Grays Well and Gordons Well Class I areas.
9. Phased increases in staffing for operations, maintenance, and patrol, linked to the level of development and use.
10. Implementation of measures to protect wilderness suitability in two WSAs.
11. Acquisition of undeveloped state and private inholdings to improve manageability and protect resources.
12. Adoption of prescriptions to insure compatibility of recreation and other uses.

13. Adoption of a Desert Plan amendment to change the multiple-use classification of 880 acres of public land on the north side of Mammoth Wash from "unclassified" to Class L (80 acres) west of the Coachella Canal and Class I (800 acres) east of the Coachella Canal. The Class L lands would be designated "Limited to Approved Routes" while the Class I lands would be designated "Open" for OHV use.
14. Adoption of a Desert Plan amendment to change the OHV designation of 4,300 acres of sand dunes in the South Ogilby area (south of Interstate 8 and east of the Coachella Canal) from "Limited to Existing Routes" to "Open." The multiple-use class of the area would remain Class M. This change would conform to the general Desert Plan policy of designating dune areas either "Open" or "Closed" regardless of multiple-use class.

#### Alternative B - No Action (No change from existing management)

Under this alternative, BLM would manage the Imperial Sand Dunes at the existing funding level with existing staff. State OHV Fund "green sticker" projects approved as of 1986 would be implemented. No overall facility development, operation, or maintenance strategy would be developed. No new sensitive resource baseline data or monitoring studies would be undertaken. WSAs would be monitored with monthly overflights and weekly Ranger patrols. Recreation use would be monitored occasionally as funds permitted.

#### Alternative C - South Ogilby Closure

This alternative would be identical to the Proposed Action, except that 4,300 acres in the South Ogilby area would be redesignated from "Limited to Existing Routes" to "Closed" to OHV use, through a Desert Plan amendment.

#### ALTERNATIVES CONSIDERED BUT DROPPED FROM FURTHER ANALYSIS

Three alternatives were considered which would involve major Desert Plan amendments to change the multiple-use class and OHV designation of large acreages in the central dunes area between the Glamis-Gecko Open Area and Buttercup Valley Open Area. These alternatives, and the rationale for dropping them from detailed analysis in this EA, are presented below:

### Alternative D - Central Dunes Closure

This alternative would be identical to the Proposed Action except that approximately 81,000 acres of land in the central dunes, including WSA 362, all Class L south of WSA 362, and Pilot Knob Mesa, would be redesignated from "Open" to "Closed" to OHV use, through a Desert Plan amendment.

Rationale for dropping Alternative D from further consideration are as follows:

1. BLM made a commitment through the Desert Plan to closely monitor use and impacts in this area and to protect sensitive resources, while allowing traditional vehicle use. The proposed RAMP and a habitat management plan upcoming in 1987 will continue implementation of this ongoing monitoring and protection program.
2. While use levels in portions of the Class L and WSA 362 lands do occasionally approach moderate levels, especially near camping areas on major holiday weekends, impacts to the lands remain minor. Wilderness suitability has not been impaired. Overall use of the central dunes remains light and is expected to remain that way in spite of increases predicted by 2000 A.D.
3. If ongoing WSA monitoring and proposed sensitive plant and wildlife studies determine that adverse effects are in fact occurring, appropriate protective measures will be taken. The nature of protective measures would depend on the extent and degree of impacts as determined through the studies. Possible measures could include erection of fenced exclosures, restriction of overnight use of Class L lands to discourage camping and staging, or closure of a portion or all of these lands. Before closure would be implemented, every effort would be made to develop adequate protection measures short of large-scale closure.

### Alternative E - Enlarge Central Dunes Class I

This alternative would be identical to the Proposed Action with the following exceptions:

1. Approximately 26,000 acres of Class L land west, south, and east of WSA 362 would be reclassified to Class I through a Desert Plan amendment.

2. A bridge over the All-American Canal would be built immediately north of the proposed Sand Hills Interchange. This would create a direct OHV corridor between Buttercup Valley and the dunes to the north (which would be changed from Class L to Class I by the Desert Plan amendment specified in No.1 above.)
3. Restroom facilities and trash service would be implemented at the Ogilby campsite.

Rationale for dropping Alternative E from detailed analysis in this EA are as follows:

1. In conjunction with the Desert Plan commitment to closely monitor use and impacts to sensitive resources in the central dunes, BLM also made a commitment to limit use levels in this area by taking no actions to improve access or develop facilities.
2. These actions to encourage use of lands to the west, south, and east of WSA 362 would also result in higher use levels within the WSA. This could result in impairment of the suitability of the WSA for designation as wilderness.

#### Alternative F - Delete WSA 362

This alternative would be identical to Alternative E, but would also include deletion of WSA 362, through an amendment of BLM's 1979 wilderness final intensive inventory, and reclassification of the area as Class I through a Desert Plan amendment.

This alternative is not legally possible. BLM stands by the 1979 inventory. Although the Desert Plan recommended the WSA as non-suitable, it does possess the wilderness characteristics described in the Wilderness Act of 1964, and these characteristics have been protected under interim management. The WSA will be managed according to Section 603 of FLPMA and BLM's Interim Management Policy (IMP) until Congress decides whether to designate it as wilderness or release it for limited multiple use according to the Desert Plan recommendation.



## CHAPTER 2

# The Proposed Action and Alternatives



## CHAPTER 2

### THE PROPOSED ACTION AND ALTERNATIVES

#### ALTERNATIVE A - PROPOSED ACTION

Consult Part III of the Draft Imperial Sand Dunes RAMP, pages 35-102, for a detailed discussion of the proposed action.

#### ALTERNATIVE B - NO ACTION (NO CHANGE FROM EXISTING MANAGEMENT)

Under this alternative, BLM would manage the Imperial Sand Dunes at the existing funding level with existing staff. State OHV projects could be proposed from time to time on a case-by-case basis, but no overall facility development, operation, and maintenance strategy would be developed.

For purposes of analysis, it is assumed that OHV projects already approved as of 1986 would be implemented under "No Action." In the Gecko area, these include construction of Roadrunner Campground, addition of a 40-cubic yard trash station at Roadrunner, paving the Cahuilla Ranger Station public parking area, expansion of the Cahuilla Ranger Station to accommodate a Dunes Patrol and residence for Recreation Technicians, hiring two seasonal and four intermittent EMT/Recreation Technicians, hiring one seasonal Maintenance Worker, and funding for road maintenance (sand removal and pavement seal coats). A volunteer Dunes Patrol would be formed.

In the southern dunes area, the Buttercup Access Road (Grays Well Road extension to the Sand Hills Interchange site,) would be paved and completed. Trash stations would be established at Buttercup, Grays Well (Plank Road), and Gordons Well.

No development or maintenance other than those projects specifically listed here would be undertaken. For purposes of analysis, it is assumed that the State OHV fund would continue to support existing operations and maintenance projects in the future.

No new resource baseline data or monitoring studies would be undertaken. WSAs would be monitored with monthly overflights and weekly Ranger patrols.

Specific RAMP prescriptions which would be implemented under this alternative include:

1. Recreation Opportunity Prescriptions 1-1, 1-2, 1-3, and 1-4.

2. Safety/Emergency Services/Visitor Protection Prescriptions 2-1, 2-3, 2-4, 2-5, 2-6, and 2-19 (beginning with the 1987-88 season).
3. Resource Protection Prescriptions 3-1, 3-2, 3-3, 3-4, and 3-6.
4. Wilderness Protection Prescriptions 4-1 and 4-2.
5. Public Contact/Interpretation Prescriptions 5-1, 5-2, 5-11, and 5-13.
6. Facility Development Prescriptions 6-1, 6-2, 6-3, 6-4, 6-11, 6-20, and 6-23.
7. Operations and Maintenance Prescriptions 7-1, 7-2, 7-12, 7-13, 7-14, 7-20, 7-22, 7-23, 7-24, 7-25, 7-32, and 7-33.
8. Concession and Vendor Prescription 8-1.
9. Access Easement and Land Acquisition Prescriptions 9-2, 9-3, 9-8, 9-9, 9-10.
10. Land Use compatibility Prescriptions 10-1, 10-2, 10-6, 10-9, 10-13, and 10-14.

#### ALTERNATIVE C - SOUTH OGILBY CLOSURE

This alternative would be identical to the Proposed Action, except with respect to prescription 1-8. Under Alternative C, 4,300 acres in the South Ogilby area would be redesignated from "Limited to Existing Routes" to "Closed" to OHV use, through a Desert Plan amendment.

# CHAPTER 3

## Affected Environment



## CHAPTER 3

### AFFECTED ENVIRONMENT

#### GENERAL DESCRIPTION

The Imperial Sand Dunes Recreation Area encompasses the area shown on RAMP Map 2, containing approximately 194,571 acres. The management area boundary has been drawn to coincide with recreation use patterns. Consequently, the boundary extends beyond the dunes at key points to include popular camping and staging areas in the adjacent creosote bush scrub. However, the core of the area and the vast majority of the acreage is the Imperial Sand Dunes, which at 1000 square miles are one of the largest dune systems in North America. Forming a band 40 miles long and an average 5 miles wide, the dune system extends beyond the recreation area into Mexico. The dunes reach heights of over 300 feet and primarily have a northwest to southeast orientation influenced by the prevailing northwesterly winter and southeasterly summer winds.

The east and west sides of the dune system differ markedly in character. West side sands are composed of generally heavier, coarser material than the lighter, finer sands carried further east in the prevailing northwest winds. The coarse sands form the largest, tallest dunes, located in the western two-thirds of the dune system. These constitute the "primary dunes." The tallest dunes are found toward the center of the overall dune mass, in the eastern half of the primary dune area. East of the primary dunes are the "secondary dunes," smaller dunes composed of finer sands and having more vegetation cover.

Annual precipitation averages approximately two inches. Hot temperatures prevail during the summer months from June through September, when daytime highs routinely exceed 100 degrees F. and may climb to 120 degrees F. During the winter, daytime highs are in the pleasant 60 - 80 degree range. The most comfortable weather (and the majority of recreation use) occurs from November through April. Besides a mecca for off-road vehicle enthusiasts, the dune environment is home to a highly specialized and unusual association of plant and animal species.

#### MANAGEMENT HISTORY

Consult the "Previous Planning" section of the Imperial Sand Dunes RAMP, pages 1 - 10, for an account of management history.

## VEGETATION

### Plant Communities

The recreation area contains the following five plant communities or habitat types, as shown on Map EA-1:

- Desert Dune Sand Plant (Psammophytic)
- Creosote Bush Scrub
- Combined Creosote Bush Scrub/Desert Microphyll Woodland
- Desert Microphyll Woodland
- Canal Influenced Vegetation

Desert Dune Sand Plant (Psammophytic): This includes areas of actively moving sand dunes as well as partially stabilized dunes. Plant density varies widely, depending upon water, sand mobility, and OHV use. Most of the sensitive plants in the recreation area occur within this habitat type. The most sensitive wildlife species also occur here. The Imperial Dunes are quite unique biologically. Vegetation is adapted to relatively high sand mobility and deep water percolation and common plants include: common sandpaper plant (Petalonyx thurberi), desert buckwheat (Eriogonum deserticola), desert panicum (Panicum urvilleanum), silver-leaved dune sunflower (Helianthus niveus ssp. tephrodes), sand food (Ammobroma sonora), Astragalus magdalenae var. peirsonii, Mormon tea (Ephedra trifurca), Croton wigginsii, desert dicoria (Dicoria canescens), and Coldenia plicata, with many annual plants in favorable years.

Creosote Bush Scrub: This is the most extensive habitat type in the California Desert. On the western edge of the Imperial Dunes, the majority of this habitat consists almost exclusively of tall, fairly dense stands of creosote bush (Larrea tridentata). Some sink areas in the central dunes also fall most closely into this habitat type. Perennial vegetation cover averages 25-50% in much of this type.

This habitat also occurs in the flat desert pavement areas between the washes to the east of the sand dunes, as described for the combined creosote bush scrub/desert microphyll woodland type.

Combined Creosote Bush Scrub/Desert Microphyll Woodland: This area east of the Imperial Dunes is a large alluvial fan draining the Chocolate and Cargo Muchacho Mountains. The alluvial fan is dissected into numerous washes and plains. Most of these washes support elements of Desert Microphyll Woodland, while the plains support Creosote Bush Scrub elements.

# IMPERIAL SAND DUNES RECREATION AREA

## MAP EA-1

PLANT COMMUNITIES/  
HABITAT TYPE

### LEGEND

— PLANNING AREA  
- - - WILDERNESS  
STUDY AREA (WSA)

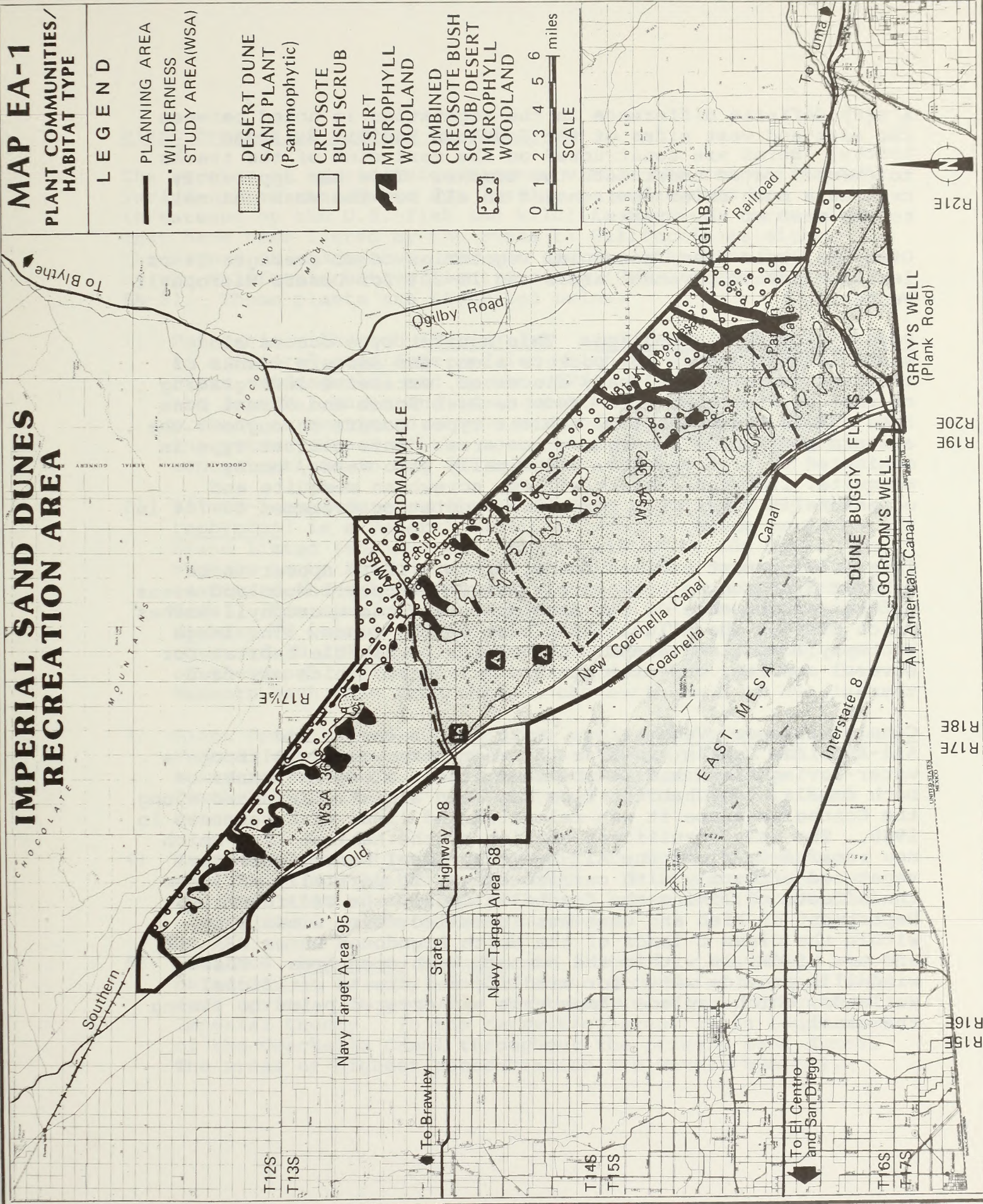
DESERT DUNE  
SAND PLANT  
(Psammophytic)

CREOSOTE  
BUSH SCRUB

DESERT  
MICROPHYLL  
WOODLAND

COMBINED  
CREOSOTE BUSH  
SCRUB/DESERT  
MICROPHYLL  
WOODLAND

0 1 2 3 4 5 6  
SCALE  
miles



A very definite difference in the vegetation is noted between the east and west sides of the Southern Pacific Railroad tracks. Berms are constructed on the east side of the tracks to channel water underneath the tracks. This has apparently created a much drier environment in all but the wash channels to the west of the tracks.

Over the whole area, perennial vegetation cover averages 5% or less for desert pavement areas and 15-20% for Desert Microphyll Washes.

Desert Microphyll Woodland: This habitat type occurs along wash channels and in low pockets along the eastern flanks of the sand dunes. As already discussed, extensive intergrading of this habitat type with Creosote Bush Scrub and Desert Dune Sand Plants (Psammophytic) habitat types occurs throughout the eastern portion of the recreation area. This habitat type is dominated by tree species, principally palo verde, honey mesquite, ironwood, desert willow, screwbean mesquite and occasionally tamarisk. Perennial vegetation averages 60-70% in the woodland areas.

This is important habitat for wildlife. There appear to be habitat differences between the large Microphyll Woodland areas on the eastern edge of the sand dunes and the Microphyll Washes which dissect the alluvial fan east of the dunes. The large Microphyll Woodland areas provide highly valuable habitat for several species, especially burro mule deer, which may fawn there.

Canal-Influenced Vegetation: Both the Coachella and All-American Canals traverse the recreation area. Although a water-loving flora had established itself along the banks of both canals, this habitat type has been almost eliminated along the Coachella since it was relocated and lined with concrete in 1980. The only significant portion of the habitat type which now remains is along the All-American Canal banks, which are vegetated primarily with carrizo cane. To partially mitigate the effects of lining the Coachella Canal, the California Department of Fish and Game has installed five windmills within the Class C lands of the North Algodones Dunes WSA 360 and two windmills within the Mammoth Wash Open Area. These windmills provide water for wildlife and create artificial wetlands, which replace those that had existed prior to lining the canal.

## Plant Species of Special Significance

The species of special significance within the recreation area include three candidates for listing as endangered or threatened by the U.S. Fish and Wildlife Service, three plants that have been listed by the State of California as either threatened or endangered, and two species that have been listed by the California Native Plant Society (CNPS) (Maps EA-2 and EA-3). These plants are described below:

- 1) Peirson's milkvetch (Astragalus magdalenae var. peirsonii) is a Federal candidate species which is also listed by the State (endangered) and by the CNPS. It is known only from the Imperial Dunes and areas west of the Salton Sea. It is present in scattered stands east of the Coachella Canal in the primary dunes of the recreation area, with highest concentrations in WSA 360 and WSA 362.
- 2) Silver-leaved dune sunflower (Helianthus niveus ssp. tephrodes) is a Federal candidate species which is also State listed (endangered), and is listed by the CNPS. It appears to be best developed in active dune areas and is scattered through the primary dunes east of the Coachella Canal. One specimen was reported in 1979 growing alongside Highway 78 west of the Coachella Canal, but it was not observed in 1985. No plants are known to be growing west of the canal. Area of highest concentration is from the Mammoth Wash Open Area through the north half of WSA 362.
- 3) Giant Spanish needle (Palafoxia arida var. gigantea) is a Federal candidate species and is listed by the CNPS. It is scattered throughout the primary dunes east of the Coachella Canal. It is restricted to the Imperial Sand Dunes.
- 4) Wiggins' Croton (Croton wigginsii) is State listed as threatened and listed by the CNPS. It is very common on the west side of the Imperial Sand Dunes, with occasional plants found on the eastern dunes.
- 5) Sandfood (Ammobroma sonorae) is listed by the CNPS. A root parasite, it is only visible above ground for a short time each spring. It grows in scattered locations throughout Imperial County. In the recreation area, it is found east of the Coachella Canal throughout the primary sand dunes. The areas of highest concentration are within WSA 362.

# IMPERIAL SAND DUNES RECREATION AREA

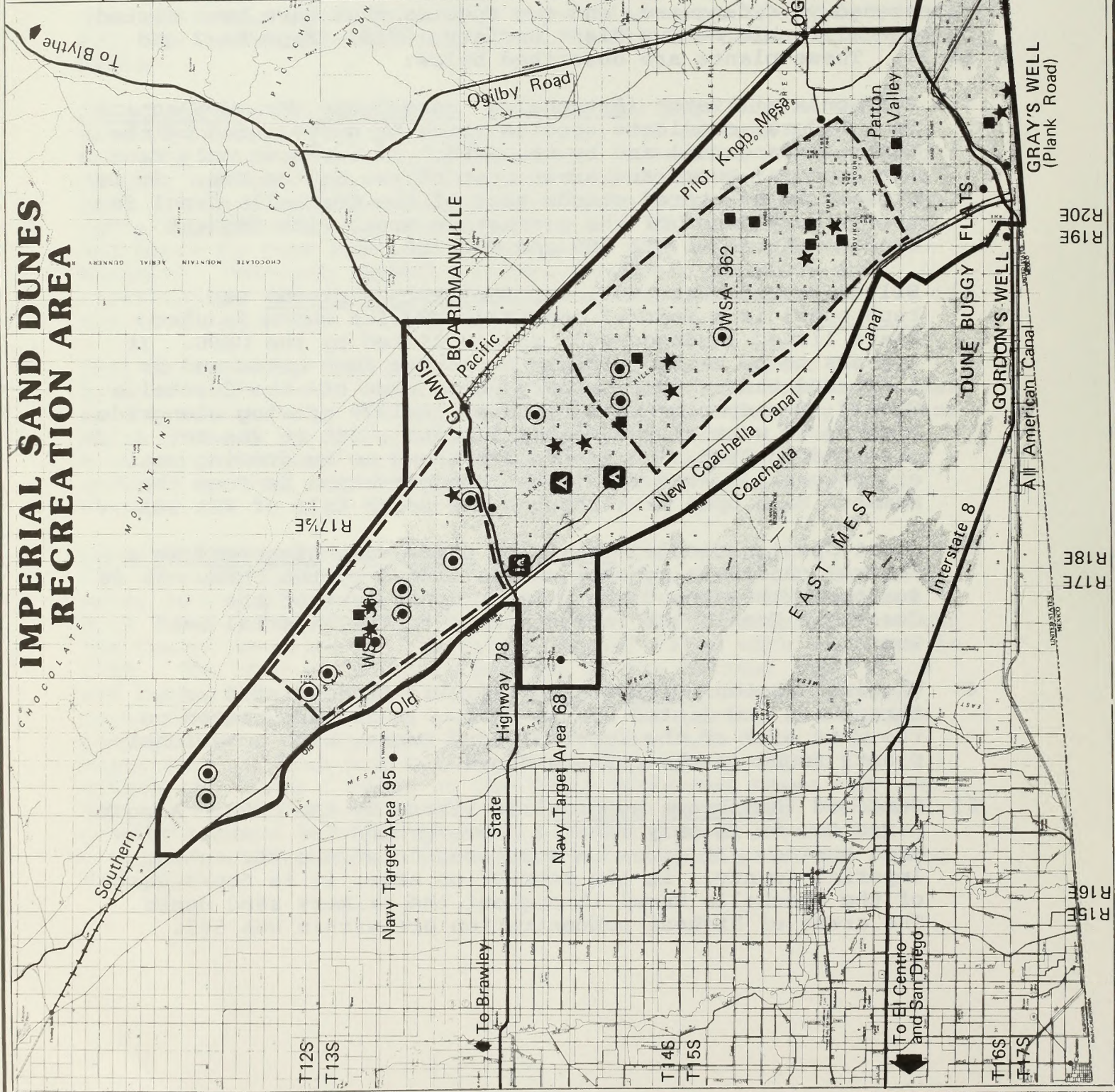
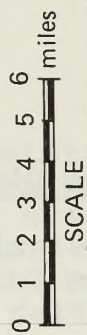
## MAP EA-2 CANDIDATE PLANT SPECIES

### LEGEND

- PLANNING AREA
- - - WILDERNESS
- · - · - STUDY AREA (WSA)

### SECTIONS WITH HIGHEST DENSITIES

- ★ *Astragalus magdalenae* var. *peirsonii*
- *Helianthus niveus* ssp. *tephrodes*
- *Palafoxia arida* var. *gigantea*



# IMPERIAL SAND DUNES RECREATION AREA

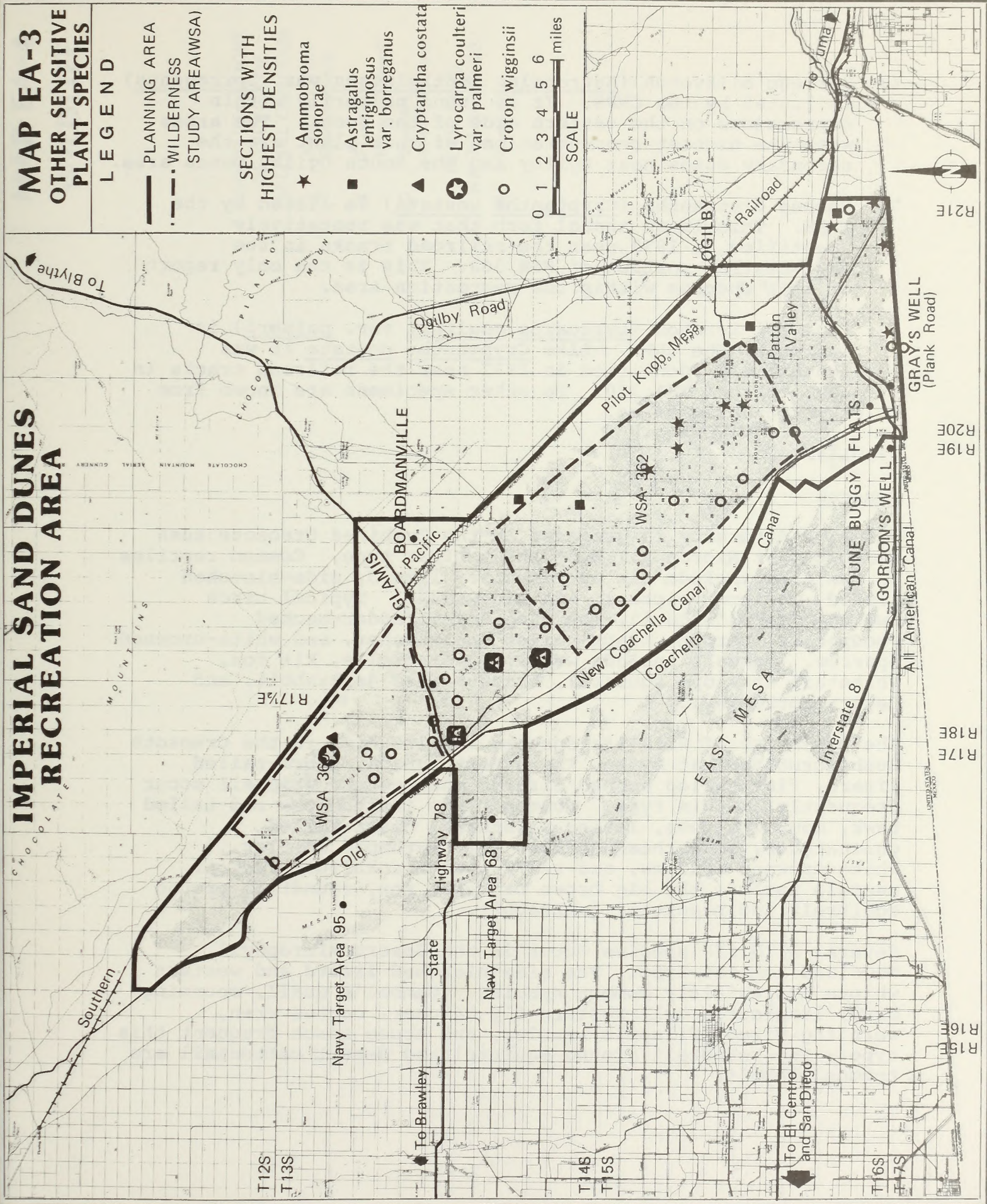
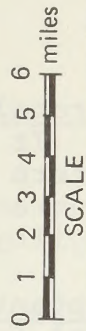
## MAP EA-3 OTHER SENSITIVE PLANT SPECIES

### LEGEND

- PLANNING AREA
- WILDERNESS
- STUDY AREA(WSA)

### SECTIONS WITH HIGHEST DENSITIES

- Ammobroma sonorae
- Astragalus lentiginosus var. borreganus
- Cryptantha costata
- Lyrocarpa coulteri var. palmeri
- Croton wigginsii



- 6) Borrego milkvetch (Astragalus lentiginos var. borreganus) is listed by the CNPS. It is found primarily within depressions on the eastern side of the dunes. The areas with the highest concentrations of this plant are the secondary dunes near Ogilby and the South Ogilby Dunes area.
- 7) Ribbed cryptantha (Cryptantha costata) is listed by the CNPS. This is an annual forb that was tentatively identified in 1977 near the railroad tracks in the east-central portion of WSA 360. This is the only report of this species within the recreation area.
- 8) Coulter' Lyrepod (Lyrocarpa coulteri var. palmeri) is listed by the CNPS. Like Cryptantha costata it was tentatively identified in 1977 near the railroad tracks in east-central WSA 360. No other specimens are known from the recreation area.

## WILDLIFE

### General

Wildlife diversity is greatest in the Combined Creosote Bush Scrub/Desert Microphyll Woodland habitat type. Common reptiles in the area include the zebra-tailed lizard, side-blotched lizard, western whiptail, and sidewinder. Typical birds include Gambel's quail, mourning dove, ladder-backed woodpecker, verdin, black-tailed gnatcatcher, and white-crowned sparrow. Mammals include western pipistrelle, kit fox, whitetail antelope squirrel, black-tailed jackrabbit, and desert cottontail.

The diversity of wildlife species is also high in the Creosote Bush Scrub habitat type. The desert iguana, zebra-tailed lizard, flat-tailed horned lizard, and western whiptail occur frequently in this type. Common birds include the red-tailed hawk, mourning dove, lesser nighthawk, black-tailed gnatcatcher, loggerhead shrike, yellow-rumped warbler, white-crowned sparrow, and red-winged blackbird. Typical mammals include the big brown bat, kit fox, roundtail ground squirrel, and blacktail jackrabbit.

Several wildlife species occur in the Desert Microphyll Woodland habitat type. The side-blotched lizard and western whiptail are fairly common species. Gambel's quail, mourning dove, long-eared owl, western fly-catcher, cactus wren, warbling vireo, Wilson's warbler, and house finch frequent this type. The roundtail ground squirrel and desert cottontail are common mammals.

# MAP EA-4 WILDLIFE

## LEGEND

— PLANNING AREA  
- - - WILDERNESS  
STUDY AREA (WSA)

## KNOWN LOCATIONS OF SPECIES OF SPECIAL CONCERN

▲ Andrews Dune  
Scarab Beetle

■ Flat-tailed  
Horned Lizard

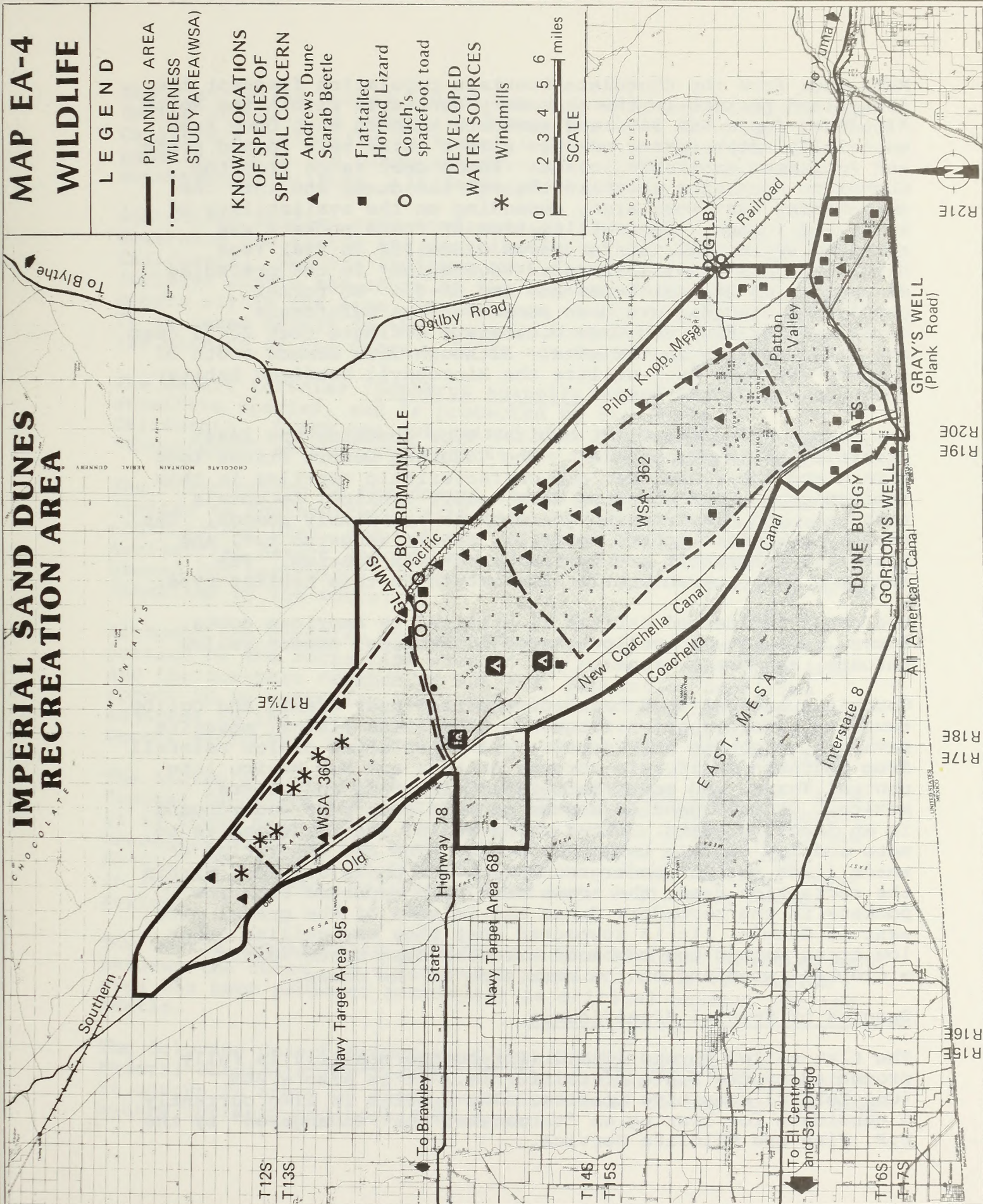
○ Couch's  
spadefoot toad

## DEVELOPED WATER SOURCES

\* Windmills

0 1 2 3 4 5 6  
miles  
SCALE

# IMPERIAL SAND DUNES RECREATION AREA



Mule deer from the Chocolate Mountain population frequent the tree-lined pockets in the secondary dune area within the North Algodones Dunes WSA 360, and southern Mammoth Wash Open Area, especially after spring or late summer rains have formed ponds and increased available forage. These deer range from the Chocolate Mountains westward through the dunes and into the neighboring East Mesa area, depending on the availability of water and forage. Deer utilization of these pockets was enhanced by installation of seven windmills in 1982 (see discussion of "Canal Influenced Vegetation" in the preceding discussion of habitat types and map EA-4). No formal population studies have been conducted but California Department of Fish and Game biologists estimate that 20-25 deer are often present in the area. Although less common south of Highway 78, some deer utilize the Microphyll Woodland habitat there on a seasonal basis.

The Desert Dune Sand Plant habitat type contains the least diversity of faunal species. The Colorado Desert fringe-toed lizard and the sidewinder are characteristic reptiles in this habitat type. The mourning dove, cliff swallow, LeConte's thrasher, and black-tailed gnatcatcher are fairly common. The coyote, roundtail ground squirrel, desert kangaroo rat, and blacktail jackrabbit are typical mammalian species. The Andrew's dune scarab beetle also occurs in this habitat type.

The canal influenced habitat is utilized by American coots, ducks, red-wing and yellow-headed blackbirds, common yellow throats, and marsh wrens.

Couch's spadefoot toad has been reported near Glamis and Ogilby townsite. This species frequents shortgrass plains, mesquite savannah, creosote bush desert, and other areas of low rainfall from Southern California through Arizona and New Mexico into central Texas, and south into Baja California and central Mexico. It may spend 10 months or more each year underground in an inactive state. After rains begin, the toads emerge to mate and lay eggs in temporary pools. The new generation of toads finds shelter underground when the pools dry up. Within the recreation area, the toads have been reported from low pockets in the secondary dunes and in some of the gravel pits east of Glamis. It is suspected that they may utilize other low areas within the combined creosote bush scrub/desert microphyll woodland on the east side of the dunes.

#### Species of Special Significance

The flat-tailed horned lizard (Phrynosoma mcallii) is fully protected by the State of California. It is also a BLM (California) sensitive species. The species is also currently a candidate for listing as "threatened" or "endangered" by the U.S. Fish and Wildlife Service.

The flat-tailed horned lizard has a limited range within the United States. It occurs in desert areas of southeast California, primarily in Imperial County, with a few populations in San Diego and Riverside Counties and in southwestern Arizona. It feeds primarily on ants.

BLM-funded studies were conducted in 1978, 1979, and 1980 to determine the status and distribution of the lizard in southern California. Results indicate that the recreation area is included within the range of the lizard. Although the lizard occurs within the area, its numbers do not appear to be high. It is found mainly in the Creosote Bush Scrub habitat type on the margins of the dunes. It is not found in the dunes proper.

The desert tortoise (Gopherus agassizi) is a BLM (California) sensitive species, and is protected by the State of California. USFWS has determined that the species warrants a "threatened" status, although it has not yet been listed.

The distribution of the desert tortoise in the United States is limited to southeastern California, southern Nevada, extreme southwestern Utah, and western Arizona. It is a completely terrestrial desert species and requires firm but not hard ground for burrowing. Creosote bush is often present in areas inhabited by the tortoise.

Although the tortoise has been recorded within the northern portion of the recreation area in the Mammoth Wash Open Area and the northern reaches of WSA 360, population densities appear to be extremely low. Animals have been recorded in or adjacent to the recreation area in the Creosote Bush Scrub and Desert Microphyll Woodland/Creosote Bush Scrub habitat types.

The Andrew's dune scarab beetle (Pseudocotalpa andrewsi) is a Federal candidate for listing as "threatened" or "endangered." It is found near Glamis and at several other locations in the secondary dunes on the east side of the dune system (Map EA-4). The species is probably endemic to the Imperial Dunes in Imperial County, California, and Baja California Norte, Mexico.

The beetle specifically inhabits troughs of loose drifting sand between the dunes. A substantial portion of the recreation area has been proposed previously as critical habitat for the beetle.

The Colorado desert fringe-toed lizard (Uma notata) is a Federal candidate for listing as "threatened" or "endangered." It occurs in areas of loose, windblown sand throughout the dune system (primary and secondary dunes).

## CULTURAL RESOURCES/NATIVE AMERICAN VALUES

For purposes of discussing these resources, there are two basic areas of consideration: the sand dunes themselves, and the areas adjacent to the dunes; i.e., East Mesa and Pilot Knob Mesa.

The sand dunes are considered devoid of archaeological resources. There may be some small temporary camps, but this is an exceedingly low possibility. Shifting sands have either disrupted any possible resources or buried them.

There has been some archaeological inventory within the recreation area in those locations adjacent to the sand dunes. Results of this study are ambiguous since much of the data was lost. Along the East Mesa segment there are a total of 28 recorded sites. The majority of these consist of small ceramics. The report (Bull, 1981) summarizing previous BLM work concluded that only two sites were potentially eligible for inclusion on the National Register of Historic Places. The overall sensitivity of this area received a moderate rating.

The Pilot Knob Mesa segment of the recreation area also received a moderate rating from Bull (1981). This area is largely devoid of archaeological sites, although a number of historic sites were located. These consisted primarily of historic isolates and small features. Three historical cemeteries are located at the railroad townsites of Amos, Glamis, and Ogilby. Of the three, only the Amos cemetery is on public land (in the Mammoth Wash Open Area). A fourth historical cemetery is located on public lands southeast of Glamis in Class M.

Remnants of the Plank Road, a single-lane wooden roadway utilized by highway traffic between 1914 and 1926, can be seen at Grays Well. A fenced section of the road has been established as an interpretive site.

The sand dunes are not unusually esteemed by Native American groups. Indian representatives from the Quechan Reservation have demonstrated no special interest in the area over the years.

## RECREATION

See pages 14-21 of the Imperial Sand Dunes RAMP for an in-depth discussion of recreation use.

## WILDERNESS

Two wilderness study areas (WSAs) are wholly within the recreation area: WSA 360, North Algodones Dunes; and WSA 362, South Algodones Dunes, as depicted on Map 2 of the RAMP. The 24,227-acre WSA 360 is north of Highway 78 and south of the Mammoth Wash Open Area. WSA 362 covers 54,141 acres of the central dunes. Its north boundary is five miles south of Highway 78, one mile south of the end of Gecko Road.

These WSAs were established in 1979 through the wilderness inventory mandated by the 1976 Federal Land Policy and Management Act. Through this inventory, BLM formally identified lands possessing the wilderness values described in the Wilderness Act of 1964:

### Wilderness Values - WSA CDCA 360, North Algodones Dunes

Naturalness: The WSA is essentially untrammelled by man. The only signs of man are six windmills and wells providing water for wildlife. The windmills have been concealed in trees and are substantially unnoticeable within the area.

Solitude: The opportunities for solitude are outstanding. The challenging hiking into the dunes serves to limit use and enhance opportunities for solitude. The undulating transverse dunes and the thickly vegetated east side valleys and hollows serve to shield users from one another, also enhancing the feeling of solitude.

Primitive and Unconfined Recreation: Opportunities for primitive forms of recreation (i.e., hiking, backpacking, and nature studies) are outstanding because of the large spaces involved and the natural screening of the dunes and vegetation. The soft sand presents strenuous hiking conditions and the lack of easily-identifiable topographic features presents a primitive recreational challenge found in no other Southern California wilderness area.

Special Features: The WSA contains types of dunes technically known as longitudinal, transverse, whaleback, barchan, parabolic, and sand sheets. The whaleback is found nowhere else in the CDCA. Three plant and four wildlife species are under review for possible Federal listing as "threatened" or "endangered." Five additional plant species are listed by either the State of California or the California Native Plant Society as sensitive.

## Wilderness Values - WSA CDCA 362, South Algodones Dunes

Naturalness: The WSA is essentially untrammelled by man. Along the relatively stable vegetated western margin of the sand dune system are found a number of OHV trails ("sand highways") which are 20 to 50-foot wide strips devoid of vegetation. OHV tracks are found at times throughout the WSA, but these tracks are periodically erased by windstorms, except on the sand-free floors of some interior basins.

The only other signs of human activity are items of unexploded ordnance left over from the days when the dunes were used as a bombing and gunnery range (1940s through 1960s). Although military teams have swept the area on several occasions, items of ordnance are periodically exposed by shifting sands.

Solitude: Despite the presence of occasional OHV traffic and resultant vehicle tracks, opportunities to find solitude remain good to outstanding. The undulating topography shields users and muffles vehicle noise, and windstorms periodically erase tracks, providing a feeling of remoteness and solitude.

Primitive and Unconfined Recreation: Opportunities are good in spite of the presence of occasional OHV traffic. The level of primitive recreation use is limited primarily by natural environmental factors, such as the difficulty of hiking in soft sand, difficulty of navigation in the complex maze of dunes, and lack of water sources. The WSA boundaries are not readily accessible by two-wheel drive vehicles, which further limits use. The presence of tracks and sounds of vehicle operation reduce the primitive recreation potential of the area for some users.

Special Features: Special features of WSA 362 are similar to those of WSA 360. The known occurrence of some sensitive plant and wildlife species is greater in WSA 362 than is WSA 360. However, two sensitive plant species recorded from WSA 360 are not known to occur in WSA 362.

Following the identification of the WSAs, BLM studied them as part of the Desert Plan preparation process. The Desert Plan preliminarily recommended the part of WSA 360 corresponding to the Algodones Natural Area as suitable for wilderness designation. WSA 362 was recommended as non-suitable because the unit was considered unmanageable as wilderness, and in order to provide for continued low levels of motorized recreational use and potential energy leasing. If Congress accepts BLM's recommendation for WSA 362, it will be managed as Class I to provide protection for sensitive biological resources.

Only Congress can designate wilderness or release a wilderness study area for multiple use. Until Congress acts on BLM's recommendations, both WSA 360 and WSA 362 are managed according to the BLM Interim Management Policy (IMP) for Lands Under Wilderness Review. This policy prohibits any actions which would impair the suitability of the WSAs for future designation as wilderness.

## VISUAL RESOURCES

The scenic quality of the recreation area has been evaluated using BLM's Visual Resource Management System. Three scenic quality rating units fall wholly or partially within the area: East Mesa, Secondary Dunes, and Primary Dunes. East Mesa's scenic quality ranges from "poor" to "medium," while both the Primary and Secondary Dunes exhibit "good" scenic quality.

The following Visual Resource Management classes have been assigned:

Class II: Areas where changes in line, form, color, and texture will be permitted, but should not be evident. All dune areas are included in this class, which covers the majority of the recreation area.

Class III: Areas where changes may be noticed but the overall landscape remains dominant. This class includes the Boardmanville area south of Highway 78 and east of the railroad tracks; and East Mesa immediately south of Highway 78 and west of the Gecko Campground area.

Class IV: Areas where changes may alter the landscape, but the changes should appear to be natural. This class comprises the remaining portion of East Mesa within the recreation area.

## MINERAL AND ENERGY USES

### Oil and Gas Leases

A number of oil and gas leases have been issued, mainly in southern WSA 360, the Glamis/Gecko Open Area, and in WSA 362. Leasing took place within the WSAs in 1981 and 1982 prior to a moratorium on WSA leasing. No development has taken place on any of the leases, and development potential is low due to geologic conditions. The current leases will expire after 10 years or when the lessee voluntarily drops the lease or loses it due to failure to pay rental, whichever occurs first.

At expiration, lease areas within WSAs will be removed from consideration for leasing, while those on other public lands will be eligible for inclusion in the simultaneous oil and gas leasing system.

### Geothermal Leases

Two Known Geothermal Resource Areas (KGRAs) underly the recreation area. The Glamis KGRA occupies a corridor along Highway 78 extending up to two miles north and three miles south of the highway. The northern third of the Glamis KGRA is in WSA 360. The Dunes KGRA occupies 16 sections of East Mesa and adjacent dunes in WSA 362.

The geothermal potential of the Glamis and Dunes KGRAs is considered fair for high temperature electrical power generation, and excellent for low temperature applications. However, industry interest in the KGRAs appears to be minimal, since no applications have been filed. BLM prepared an EA for geothermal leasing in the recreation area in 1981. The resulting decision of the California State Director was that the north half of the dunes system (Mammoth Wash Open Area, WSA 360, and the Glamis-Gecko Open Area) be closed to all geothermal leasing. The dunes south of the Glamis-Gecko Open Area would be open to leasing subject to a no surface occupancy stipulation. All areas outside the dunes proper are open to leasing with appropriate mitigations. WSA 362 is not currently under consideration for leasing because of the moratorium on leasing in WSAs.

### Saleable Minerals

All sand and gravel sales activity in the recreation area is found on the Glamis-Boardmanville Class M lands. Free-use and sales permits have been issued for sites in Sections 19, 22, 23, 24, 26, 27, and 34, T. 13 S., R. 18 E., SBM. Sections 22, 23, and 24 are withdrawn from mineral entry for the purpose of facilitating sand and gravel extraction. The gravel pit sites in this area are frequently used as informal campsites by OHV recreationists seeking to escape the crowds around Glamis.

### Mining Claims

Mining claims in the recreation area are located within the Glamis-Boardmanville Class M lands in Sections 19, 21, 25, 26, 27, and 28, T. 13 S., R. 18 E., SBM, and Pilot Knob Mesa Class L lands in Sections 17 through 21 and 27 through 32, T. 15 S., R. 20 E., SBM. No mineral extraction has occurred in these areas, and potential for practical extraction appears to be low.

## LAND OWNERSHIP AND USE AUTHORIZATIONS

Total acreage within the recreation area is 194,571 -- 184,311 acres are public lands and 10,260 acres are in state or private ownership. (See RAMP Tables 1 and 2, page 8.)

### Navy Withdrawal and Navy/BLM Cooperative Agreement

The U.S. Navy is currently making application for withdrawal of acreage corresponding to Range Safety Zone A surrounding their targets 95 and 68, which are used for bombing and strafing practice by aircraft. Targets 95 and 68 are located on East Mesa, on the north and south sides of Highway 78, respectively. Because recreational use from the Gecko area has at times overflowed into the Target 68 area, this target was included within the recreation area boundary to insure that public safety would be considered in the RAMP. Therefore, approximately 4,880 acres of the Target 68 withdrawal fall within the boundaries of the recreation area. This acreage will be closed to public entry. The area surrounding the withdrawals encompassing Range Safety Zones B and C is subject to a proposed BLM/Navy Cooperative Agreement, to assure that public uses can continue but that uses incompatible with the military operations do not occur. The cooperative agreement area covers roughly the western two-thirds of WSA 360, the western half of the Glamis/Gecko Open Area, and the remaining portion of the recreation area west of the old Coachella Canal and not withdrawn to the Navy. The Navy will be granted a right-of-way corresponding to Range Safety Zone B to assure continuation of low-level flight by Navy aircraft approaching the targets.

The withdrawal, cooperative agreement, and right-of-way were included in 1985 Amendment #1 to the California Desert Plan. Under terms of Amendment #1, public lands in Range Safety Zone B around Target 68 (west of the Old Coachella Canal) will be closed to vehicle use in order to protect public safety.

### Utility and Transportation Rights-of-Way

Two major transportation rights-of-way (State Highway 78 and Interstate Highway 8) cross the recreation area in an east-west direction. The Southern Pacific Railroad right-of-way forms much of the east boundary of the area. Approximately eight miles of the railroad right-of-way in the Glamis area is included within the recreation area.

The only major existing utility corridor within the recreation area passes through the Buttercup Valley Open Area parallel to Interstate 8. Existing facilities include a 500-KV transmission line and a number of smaller power and telephone lines. Powerlines also parallel the new Coachella Canal and Southern Pacific Railroad. A high-pressure gas pipeline is located within the railroad right-of-way. A microwave relay tower is located two miles west of Ogilby townsite. A current right-of-way project proposal involves a buried telephone line along Highway 78.

#### Bureau of Reclamation (BR) Withdrawals

While most BR withdrawn lands have been relinquished within the recreation area boundary, some of the lands around the U.S. Navy East Mesa target areas and between the old and new Coachella canals remain withdrawn. Under terms of a 1978 agreement, BLM has recreation management responsibility for these withdrawals but must obtain BR concurrence on all management actions. In addition, BR retains a withdrawal on the rights-of-way of the new Coachella Canal and All-American Canal (1,000 feet on either side of the canal center-line.) These rights-of-way are not covered by the 1978 agreement. All BLM management programs initiated within the canal rights-of-way must be approved by BR. BR programs are the paramount use on all BR withdrawn lands. The most significant BR program potentially affecting the recreation area in the near future is the proposal to construct a new concrete-lined All-American Canal. In the recreation area, this new canal would be constructed immediately adjacent to the present canal on the north side.

#### Land-Use Permits

Land-use permits are issued within the recreation area principally for commercial filming, mobile recreation vending, and apiary sites. Commercial filming takes place more frequently in Buttercup Valley than anywhere else, but also south of Highway 78 and along the Imperial Sand Dunes (Gecko) Road. Filming companies generally prefer readily accessible locations close to a paved road.

Mobile vendors locate in the areas of high visitor concentration - near Gecko Campground, Glamis, Grays Well, and near Buttercup Valley. Typical goods and services are food, ice cream, firewood, t-shirts, and ATV rentals, although permits have occasionally been issued for more unusual services, such as body painting. BLM's policy has been to let the market determine the viable vending operations, with

permits being issued for any vending activity that meets legal requirements and does not conflict with BLM management objectives.

Apiary sites are at numerous locations along both the old and new Coachella canals. Location of these sites is determined by policies established by El Centro Resource Area's Apiary Management Plan. Hives must not be located within one mile of concentrated recreational use zones.

#### PRIVATE BUSINESSES - RECREATION SERVICES

Three businesses, two at Glamis and one at Boardmanville, depend heavily on sand dunes recreationists to make their operations viable. The three businesses sell souvenirs, camping supplies, snacks, cold drinks, gasoline, OHV repair services, and miscellaneous items normally available at convenience type stores.

Besides these local businesses, the recreation area has an economic influence on gasoline service stations, restaurants, and convenience stores in nearby towns, principally Brawley, El Centro, and Blythe, California and Yuma, Arizona. Visitors pass through these towns on their way to and from the recreation area, and often purchase gasoline and food enroute. Purchases are normally limited to these items, with visitors usually equipping themselves with the major needs for their trip before leaving home. The recreation area does not generate much motel business, since the vast majority of visitors camp on site.



# CHAPTER 4

## Environmental Consequences

Environmental consequences of the proposed project are discussed in this section. The project is located in the vicinity of the proposed project.

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## CHAPTER 4

### ENVIRONMENTAL CONSEQUENCES

This chapter focuses directly on the issues identified in Chapter 1. The environmental impacts of each alternative are described issue by issue. The environmental impacts of these alternatives on the area's other resources have also been analyzed and have been found to be insignificant.

Because of the general nature of this analysis and the lack of numerical and statistical information regarding the area's resources, impacts in this chapter are often expressed in relative terms. For the purpose of this analysis the meanings of these terms are as follows:

Negligible impact - the degree of anticipated environmental impact is considered less than minor.

Minor impact - comparatively unimportant; in terms of the area's vegetation or wildlife resources, a minor impact is one affecting a specific group of individuals of a population in a localized area for one generation or less; the integrity of the regional population is not likely to be affected.

Moderate impact - an effect sufficient enough to cause a change in the abundance, distribution, or quality of a resource. In terms of the area's vegetation and wildlife, the abundance or distribution of a portion of the regional or local population would change over more than one generation, but would not affect the integrity of the regional population as a whole.

Major impact - an effect sufficient enough to cause a major change in the abundance, distribution, or quality of a resource. In terms of the area's vegetation and wildlife, the abundance or distribution of the regional or local population of a species would decline beyond which natural recruitment would not likely return that population to its former level within several generations.

Impacts may be either positive or negative, and are measured in relationship to the current resource situation or condition. Actions which maintain current conditions are considered to have negligible impact, even if the resource situation or condition would deteriorate if the action were not implemented. Only actions which actually improve resource conditions in relationship to the current situation are considered to have a positive impact.

The projected future use levels, use densities, and levels of closure violations are estimates. They were compiled using 1985 base data, information on use trends from 1978 to 1985, and the professional judgement of El Centro Resource Area staff.

#### ALTERNATIVE A - PROPOSED ACTION

##### Impacts on OHV Recreation

Overall, the proposed management prescriptions will have a moderate positive impact on OHV recreation. The acreage available for intensive OHV recreation will not significantly change. As use levels rise, conditions within Class I areas will become more congested (see Table EA-1). At the same time, proposed access and facility development projects will significantly improve distribution of use within available Class I lands, thereby reducing some congestion. Implementation of the plan's safety and education prescriptions should reduce accident rates and improve emergency response in the event of accidents. Facility development prescriptions will make adequate camping space available and provide basic sanitary facilities.

Adoption of a comprehensive operations and maintenance program will insure adequate staffing to meet maintenance and patrol requirements. Enforcement of vehicle noise, safety equipment, and registration requirements will improve. Acquisition of legal access and inholdings within Class I areas will insure continued availability of these lands for OHV recreation.

Implementation of a concession leasing program at Levels 3 and 4 will enable existing Class I lands to accommodate anticipated camping demand in the 1990s while further improving trash and sanitary facilities, at minimal cost to the government. Development of RV park facilities will also extend the OHV use season into the summer months for those having RVs equipped with air conditioning. This will result in riding opportunities under less congested summer conditions.

The wilderness and resource protection prescriptions will restrict development of OHV recreation facilities to Class I areas. Preparation of a habitat management plan and adoption of a program of sensitive resource studies and monitoring may result in restriction of camping and riding within portions of Class I areas if unacceptable impacts are documented. However, acquisition of more reliable data on the distribution and condition of sensitive resources will also make it possible to develop protective measures directed at more specific locations and problems in lieu of large precautionary closures. In other

TABLE  
EA-1  
ANTICIPATED OHV USE LEVELS AND USE DENSITIES  
UNDER THE PROPOSED ACTION  
IMPERIAL SAND DUNES RECREATION AREA

Use Zone	1985		1995		2000	
	VUDs	Density (VUD/Acre/Yr.)	VUDs	Density (VUD/Acre/Yr.)	VUDs	Density (VUD/Acre/Yr.)
Mammoth Wash <sup>1</sup> Open Area (11,000 Acres)	19,000	1.7	20,000	1.8	150,000	13.6
Glamis/Gecko <sup>1</sup> Open Area (22,000 acres)	489,000	22.2	817,000	37.1	926,000	42.0
WSA 362/ Central Dunes <sup>2</sup> Class I (65,000 Acres)	6,000	0.1	12,000	0.2	16,000	0.2
Ogilby/Pilot <sup>2</sup> Knob Mesa (15,300 acres)	9,000	0.6	15,000	1.0	19,000	1.2
Buttercup Valley Open Area (12,500 acres)	240,000	19.2	401,000	32.1	518,000	41.4
East of Glamis (Highway 78) (9,300 acres)	16,000	1.7	27,000	2.9	35,000	3.8
East Mesa <sup>3</sup> Near Dunes <sup>3</sup> (29,900 acres)	19,000	0.6	17,000	0.6	22,000	0.7
TOTAL <sup>4</sup> (160,000 acres)	792,000	5.0	1,297,000	8.1	1,670,000	10.4

Note: Assume 5% increase in VUDs per year unless otherwise noted.

- Figures for Mammoth Wash and Glamis/Gecko assume development of access and facilities at Mammoth Wash. Without Mammoth Wash development, figures for 2000 for Mammoth would be 25,000 VUDs (Density 2.3). Figures for Glamis/Gecko would be 1,051,000 VUDs (Density 47.8).
- Under the Proposed Action, a 5% annual rate of increase is assumed for Pilot Knob Mesa. This is because it is anticipated that there will be less demand for this area with the development of facilities to more adequately handle demand in the Buttercup Valley Open Area. Because a lower use level is expected at Ogilby a lower use level in the central dunes is also anticipated under the Proposed Action. Compare with RAMP Table 6, which shows the No Action Alternative.
- The BLM/U.S. Navy Cooperative Agreement, which resulted in closure of some East Mesa lands, will reduce East Mesa use by 9,000 VUDs in 1987. This has been taken into account in 1995 and 2000 figures.
- Density is based on 160,000 acres which are available for OHV use in the recreation area.

words, while it is possible that some OHV opportunities will be lost within Class L, adoption of a thorough monitoring program makes it less probable that all opportunities will be lost through complete closure.

The greatest single change in the distribution of OHV use will occur at Level 4 in the event of development of legal access and facilities at Mammoth Wash. If BLM camping facilities are installed, use will increase from the current 19,000 VUDs annually to approximately 100,000 VUDs (For comparison purposes, this is similar to the 1985 use level at Dune Buggy Flats near Gordons Well). Development of a concession RV park and store will result in an additional 50,000 to 100,000 VUDs annually (similar to or somewhat greater than the 1985 use level at the Buttercup and Grays Well areas south of Interstate 8). This will divert a sizable amount of use away from the Glamis/Gecko Open Area, thereby alleviating congestion there (see footnote 1, Table EA-1). However, in so doing, the uncrowded "backcountry" character of Mammoth Wash (which is a major appeal to many of its users) will be lost.

Use of the central dunes Class L and WSA 362 lands can be expected to nearly triple by 2000 A.D., if anticipated use increases do, in fact, occur. Use of WSA 362 is expected to reach 16,000 VUDs, which will increase user density from the current estimate of less than 0.1 VUD/acre/yr. to slightly over 0.2 VUD/acre/yr. This is still a very low user density, and is lower than that predicted for the No Action Alternative.

#### Impacts on General (Non-OHV) Recreation

Overall, the proposed prescriptions will have a minor positive impact on general recreation. Dispersal of OHV camping use away from Highway 78 and development of Osborn Park for its original intended purpose as a scenic viewpoint and interpretive site will enhance general public sightseeing and enjoyment of the dunes. Improved access in the Grays Well area and implementation of the Plank Road ACEC Plan will enhance general public enjoyment of this unique historic resource.

## Impacts on Wilderness Values

Naturalness: Overall, the proposed prescriptions will result in minor negative impacts to the naturalness of WSA 360. Increased boundary closure signing, erection of physical barriers on boundaries between the WSA and intensive use areas, development of an OHV access corridor to the west around WSA 360, and increased patrol will reduce closure violations and enhance naturalness (see Table EA-2).

TABLE EA-2                      ANTICIPATED INCIDENCE OF CLOSURE VIOLATIONS  
ALGODONES NATURAL AREA (WSA 360)  
UNDER THE PROPOSED ACTION

Disposition of Incident	1985 (actual)	1995	2000
Evidence of violation observed - no violator apprehended	348	100	50
Verbal Warnings Issued	26	25	25
Written Warnings Issued	5	25	25
Citations Issued	<u>64</u>	<u>200</u>	<u>150</u>
TOTAL KNOWN VIOLATIONS	443	350	250

Increased use of the Mammoth Wash Open Area at Level 4 will place increased pressure on the north closure boundary. However, increased signing and patrols will counter this. Nevertheless, moderate negative impacts will occur to the non-suitable portion of the WSA which extends north of the closure boundary (approximately 1,200 acres). These impacts will take the form of increased presence of OHVs, formation of additional trails in vegetated areas, and increased numbers of tracks in the sand. These impacts will constitute impairment of the non-suitable acreage, though not of the suitable (Class C) lands.

Overall, the proposed management prescriptions will result in negligible to minor negative impacts to naturalness within WSA 362. Direct impacts of facility development will be confined within Class I areas 3/4 mile or more from the WSA boundary. As general OHV use levels within the recreation area increase, use of the WSA will increase, resulting in increased occurrence of tracks in the dunes. Overall negative impacts to naturalness are expected to remain minor, however because use density will remain very low. OHV use within vegetated areas is largely confined to sand highways which have existed in the WSA since prior to the wilderness inventory, although some new sand highways may form as time passes. Impacts to sensitive vegetation and wildlife will be closely monitored, and use restrictions will be implemented as necessary to protect viable populations of those species.

Solitude: Overall, impacts to opportunities for solitude will be negligible within WSA 360. Opportunities are expected to remain outstanding. Development of a trailhead parking area will result in a projected increase in visitation from 500 VUDs in 1985 to 2000 VUDs by the year 2000. However, ample opportunities to find solitude will continue to be provided by the area's substantial size and the shielding effect of topography and vegetation.

Overall, impacts to solitude will be negligible within WSA 362. Opportunities will remain good to outstanding, depending on one's location within the WSA, the time of the week, and season of the year. As at present, the principal factor limiting the feeling of solitude will be the presence of vehicle tracks. Most tracks are only temporary, however, and are removed by windstorms.

Primitive or Unconfined Recreation: Overall, minor positive impacts to opportunities for primitive and unconfined recreation will occur in WSA 360. Development of a relatively secure trailhead parking area and distribution of information on primitive recreation opportunities through the recreation area brochure will make these opportunities more readily available to the public.

Impacts to opportunities for primitive and unconfined recreation within WSA 362 will be negligible. As has been the case since before the area was established as a WSA, primitive recreationists are likely to encounter evidence of vehicle use in the form of tracks. However, (with some preplanning to avoid

major holiday weekends,) it will continue to be quite possible to spend a weekend in the WSA without actually encountering a vehicle. Primitive recreation use of WSA 362 is expected to remain at a very low level, largely because of the remoteness of the WSA.

Special Features: Impacts of proposed management prescriptions to the dune formations themselves will be negligible in both WSA 360 and WSA 362. Impacts to sensitive biological resources are discussed by species as separate issues.

#### Impacts on Burro Mule Deer Habitat

Overall, the proposed management prescriptions will result in minor negative impacts to burro mule deer habitat. Impacts to deer habitat will be negligible at levels 1 through 3. Increased use of the Mammoth Wash Open Area at Level 4 will result in moderate negative impacts to the microphyll woodland habitat areas where two of the windmill wildlife water sources have been developed. Both of these water sources are within the open area. However, one of the two is also within the non-suitable northern portion of WSA 360.

Most increased use will be day use. The windmills are in remote locations. An increased incidence of intentional or unintentional harassment will result from passing OHV traffic. No significant impacts are expected to trees, since increases in camping activity are expected to be minimal. However, an increase in OHV trails in the vegetated woodland areas is expected. Most OHV activity will be during the winter season. However, if a concession RV park is developed, use in summer (including the September fawning season) would be expected to increase, though to no more than 20% of winter use levels.

The impact of increased OHV use is limited somewhat by the fact that these two northern windmill sites are regarded as being of only fair quality compared to the five sites further south in the closed area. The better sites to the south would receive negligible impacts. For this reason, overall impacts to deer habitat are considered minor although impacts to the two northern sites will be moderate.

#### Impacts on Couch's Spadefoot Toad Habitat

Overall, the proposed management prescriptions will result in negligible to minor negative impact to Couch's spadefoot toad habitat. Potential habitat within WSA 360 and Class L areas will receive negligible impacts overall, although minor to moderate impacts may occur at Ogilby, if the toad occurs near the camping area. Impacts within Class M at South Ogilby Dunes are also expected to be negligible, since use will remain at very low levels.

Localized moderate negative impacts are anticipated at low areas within Class I around Glamis and in gravel pits located in Class M east of Glamis. Impacts may consist of soil compaction from OHV use and death of individual animals from collisions with OHVs. Since the toads are only on the surface for a limited period, these impacts will be limited as well. Despite these localized impacts, it is not anticipated that the proposed action will result in more than minor impacts to the local population, and negligible impacts to the total population of the species.

Impacts on Candidate Species for Federal Listing as "Threatened" or "Endangered"

Astragalus magdalenae var. peirsonii (Peirson's Milkvetch): Overall, impacts of proposed management prescriptions are expected to produce a negligible to minor negative impact to Peirson's Milkvetch. This species is widely distributed within the dune system. Localized site-specific impacts will occur along the Imperial Sand Dunes (Gecko) Road at parking pad and campground construction sites in Class I. Experience at Gecko Campground indicates that the combination of construction activities and subsequent intensive use near the facility results in total removal of all vegetation within a radius of 1/8 mile (660 feet) of the facility and partial removal within an additional 1/8 mile. Beyond that point, impacts are largely restricted to trails or sand highways which develop through vegetated areas.

Negligible impacts are expected within WSA 360. Likewise, negligible impacts are expected within Class I and WSA 362 lands except along the existing sand highways through the vegetated areas. Soil compaction and vehicle traffic on these established sand highways is sufficient to prevent regrowth. However, use of the WSA 362 will remain low. User densities are expected to remain below 0.3 VUD/acre/yr. by 2000 A.D.

In conclusion, while minor negative impacts to Peirson's Milkvetch are anticipated, the species is expected to maintain a viable, healthy overall population within the total dune system. This species along with other sensitive species will be closely monitored to identify any unexpected impacts and provide a basis for protective measures if necessary.

Helianthus niveus ssp. tephrodes (Silver-leafed dune sunflower): This species occurs in a continuous distribution from Buttercup Valley to Mammoth Wash on active dune surfaces, principally of the primary dunes. Negligible to minor negative impacts are expected from the proposed management prescriptions.

The areas of highest density for this species are in WSA 360 and northcentral WSA 362. Some plants are present in the facility development zone in the Gecko Campground area, but prime habitat is in the higher dunes to the east.

Principle impacts to this species are expected from occasional collisions with vehicles traversing active dune surfaces in the highest dunes. Such collisions occur with greatest frequency within Class I areas and relatively infrequently in the central dunes Class L area. Even with anticipated increases in use by 2000 A.D., a viable, healthy population is expected to be maintained. However, the species will be closely monitored to determine actual trends.

Palafoxia arida var. gigantea (Giant Spanish needle): The giant Spanish needle is an annual plant occurring throughout the dune system on both stable and active dune surfaces. Little is known of its ecology, but it would be logical to expect this species to be subject to greater annual population fluctuations than perennial species, based on fluctuating rainfall or other environmental conditions. One objective of baseline studies and monitoring proposed by the RAMP will be better definition of critical environmental factors influencing this species.

Once again, negligible to minor negative impacts are expected. The species is present in low densities near proposed facility developments. Highest densities are within WSA 360, southern WSA 362, and Class L lands between WSA 362 and Interstate 8, where use density is expected to remain low.

Desert Tortoise: Little is known of the population or occurrence of the Desert Tortoise within the recreation area, though it is thought to be present in low numbers around Mammoth Wash and in the secondary dunes of the Mammoth Wash Open Area and WSA 360. The population and occurrence will be assessed through Level 3 baseline data studies prior to initiation of Mammoth Wash development at Level 4. Assuming the desert tortoise is present, the proposed management prescriptions will have a negligible impact through Level 3. Impacts will remain negligible within the Class C lands of WSA 360 at Level 4, but moderate negative impacts will occur to tortoise habitat within Class I. Increased use would result in inadvertent destruction of some tortoise burrows and direct death or injury of tortoises accidentally run over.

Andrew's Dune Scarab Beetle: Andrew's dune scarab beetle has been found primarily in the secondary dunes within WSA 362, although it is also known to occur at other locations throughout the secondary dunes and at isolated sites in the

primary dunes. Overall, the proposed management prescriptions are expected to have a minor to moderate negative impact to the beetle. Since no facility construction is planned in the secondary dunes, direct impacts from facility construction are expected to be minor to negligible. However, grading of the access road south of Glamis and installation of restrooms and trash stations will result in increased utilization of existing campsites on the creosote bush flats bordering the secondary dunes. Currently, approximately 50% of the total use on the Glamis side of the Glamis/Gecko Open Area occurs on the flats south of Glamis. This is expected to increase to 55% at Level 2, 60% at Level 3, and 70% at Level 4, as use is shifted away from Highway 78 and into Class I. This will result in corresponding increases in OHV use of the adjacent secondary dunes, resulting in possible minor to moderate negative impacts.

Impacts within WSA 362 are expected to be minor overall. However, use will increase, especially within two miles of Ogilby and within a mile of the northeastern WSA/Class I boundary. Grading the first three miles of the road south of Glamis may also encourage some users to drive south along the road to camp in Class L away from the congestion further north, resulting in increased use of the WSA. The proposed monitoring program will establish a series of sampling points in the secondary dunes between Glamis and Ogilby to determine the actual extent of impacts.

The proposed Desert Plan Amendment to redesignate south Ogilby Dunes from "Limited" to "Open" for OHV use is expected to have a negligible impact on beetle habitat. The redesignation is not expected to have any impact to actual use patterns in the area. Use levels will remain low in this area, probably not growing significantly from the 1985 level (approximately 1,000 VUDs), because of the lack of access to the larger primary dunes.

Flat-Tailed Horned Lizard: The flat-tailed horned lizard occurs in sandy creosote bush scrub flats found east and west of the dune system. These same areas are popular as staging and camping areas for OHV recreationists. Minor to moderate negative impacts are possible from implementation of the Proposed Action, depending on the population actually present.

Most recorded locations for the flat-tailed horned lizard are from the Gordon's Well (Dune Buggy Flats), Ogilby, and South Ogilby areas, although isolated occurrences of lizards or scat have been reported from the east and west sides of the Glamis/Gecko Open Area and along the western boundary of WSA 362.

A 1986 BLM survey found no lizards and few scat in the Gordon's Well/Dune Buggy Flats area (Olech, pers. comm.). The population

recorded from this area in an earlier (1980) survey has apparently experienced a severe decline, as has the population of adjacent parts of East Mesa. Determination of flat-tailed horned lizard relative abundance on Pilot Knob Mesa, at Ogilby, and at South Ogilby will be a priority for proposed Level 2 studies. Current information in the area is lacking. Sites at which lizards or scat have been recorded are two or more miles to the east of the Ogilby campsite, but the lizard may occur at or near the campsite as well. Since the species appears to be impacted most by camping and staging activity, negative impacts may be occurring if the lizard is present near the camping area. However, relatively minor or negligible impacts would be expected from use of the campsite to populations further east near Ogilby Road. Most OHV traffic heads west into the dunes rather than east. Very little camping or staging occurs at South Ogilby, and this is not expected to change under the proposed action. Unless an unanticipated upsurge in use occurs, impacts in that area should be minor to negligible.

Despite isolated sightings, the flat-tailed horned lizard is not expected in large numbers in the marginal habitat near facility development zones in the Glamis/Gecko or Mammoth Wash Open Areas. All construction sites will be examined for evidence of the species as part of the site-specific EA process prior to construction. Impacts are expected to be negligible.

Colorado Desert Fringe-Toed Lizard: No systematic inventories of this species have been performed, but it is expected to occur throughout the primary and secondary dunes. Because its habitat is widespread within the recreation area and surrounding regions and large portions of the habitat are located within either WSA 360 or WSA 362 (where OHV use is either prohibited or occurs at very low levels). Negligible to minor impacts are expected.

#### Impacts on Other Plant Species Considered Sensitive

Ammobroma sonorae (Sand Food): This plant is a parasite which establishes subterranean connections with the root system of the common dune shrub Coldenia plicata and possibly several other species. It has been recorded from throughout the dune system, but highest known densities are in central WSA 362 and just north of the Mexican border near Buttercup Valley and in South Ogilby Dunes.

Overall, negligible to minor negative impacts are anticipated from implementation of the Proposed Action. While growing user densities in the Buttercup Valley area may have a moderate negative impact on the population there, use levels will remain low in WSA 362 and at South Ogilby.

Astragalus lentiginos var. borreganus (Borrego milkvetch): The essential habitat of this species is small dune depressions 10 to 80 yards across on the east side of the dune system. It is known only from WSA 362 and adjacent Class L lands, as well as South Ogilby dunes. Increasing OHV activity in the secondary dune depressions south of Glamis and near Ogilby will result in some destruction of individual plants. Impacts are expected to be minimal in the South Ogilby area, because use is not expected to increase significantly in that area. Overall, implementation of the proposed action will result in minor to moderate negative impacts to this species.

Cryptantha costata (Ribbed cryptantha): This species is known only from east-central WSA 360. Its recorded location is well within the closed area. Impacts are expected to be negligible.

Lyrocarpa coulteri var. palmeri (Coulter's lyrepod): This species is known only from east-central WSA 360. Its recorded location is well within the closed area. Impacts are expected to be negligible.

Croton wigginsii (Wiggins' croton): Wiggins croton is very common within the primary dunes, although the Imperial Dunes and nearby areas appear to be its only habitat north of the Mexican border. Highest densities are in southern WSA 360 and WSA 362, although the plant is also one of the most common shrubs along the Imperial Sand Dunes (Gecko) Road, where it occupies the road shoulder as well as surrounding lands. The population of this species within the dune system is large, healthy, and viable. Impacts from the Proposed Action are expected to be negligible.

#### Impact on Private Recreation Service Businesses in Imperial County

Overall, the proposed action will have a minor to moderate positive impact on recreation service businesses. The plan will eliminate competition between mobile vendors and private businesses at Glamis and Boardmanville within a three mile radius of the businesses. This is expected to have a moderate positive impact on the businesses at Glamis and Boardmanville. On the other hand, development of a concession store and RV park in the Gecko area will have a negative impact to the businesses at Glamis and Boardmanville. The impact is minimized, however, by the timing of implementation. By 1995, the sand dune visitor market will be big enough to accommodate an extra commercial establishment in the Glamis/Gecko Open Area.

Development of a concession RV park south of Glamis will have a moderate positive impact to the general store and OHV repair businesses at Glamis and Boardmanville, by introducing larger

numbers of visitors. Direct competition with adjacent private businesses will be avoided, because the concession RV park will not be implemented if similar facilities serving the same purpose are constructed on private land.

The proposed concession at Grays Well will have a negligible impact on private businesses at Glamis or Boardmanville.

Although recreational use of the dunes has a moderately positive impact on gas stations and restaurants in the Imperial County area, the increases in use anticipated between 1985 and 2000 are not significantly different between the proposed action and no action alternatives. The overall impact on these businesses will therefore be negligible through Level 3. Construction of concession stores and gas stations in the dunes at Level 3 and above may have a minor negative impact to similar businesses in surrounding communities. However, the significant increase in numbers of visitors will most likely insure an ample market for regional businesses. Overall, the new concession facilities will have a moderate positive impact to the regional economy. Establishment of stores and RV parks within the dunes will result in a higher percentage of sand dunes recreation dollars spent within Imperial County rather than in the coastal or Arizona cities where most visitation originates.

### Mitigation Measures

The following mitigation measures are proposed to reduce or eliminate negative impacts of Alternative A, the Proposed Action.

#### Impacts on Wilderness Values

1. Do not develop access and facilities at Mammoth Wash until after Congressional action on the wilderness recommendation for WSA 360.

Discussion: This measure will prevent impairment of the wilderness suitability of 1,200 acres of WSA 360 located within the Mammoth Wash Class I lands.

#### Impacts on Burro Mule Deer Habitat

2. Prior to implementation of Level 4, install enclosure fences around the two northernmost wildlife windmills located within the Mammoth Wash Class I lands, to exclude OHVs from approximately 60 acres surrounding each windmill.

Discussion: This measure is to prevent disturbance of burro mule deer habitat from anticipated increases in OHV activity at Level 4.

### Impacts on Couch's Spadefoot Toad Habitat

3. Initiate baseline and monitoring studies for this species in conjunction with the habitat management plan to be prepared in 1987.

Discussion: This measure will serve to identify the occurrence of the species within the recreation area, and will help to identify if further measures, such as construction of exclosure fences around low areas, are necessary to maintain a viable local population.

### Impacts on Andrew's Dune Scarab Beetle

4. If recreational use monitoring indicates a shift in use into Class L lands south of Glamis along the Southern Pacific Railroad, close the affected areas to overnight camping.

Discussion: This measure will prevent encroachment of intensive camping activity onto Class L lands adjacent to the secondary dunes south of Glamis. It will serve to reduce potential impacts to Andrew's dune scarab beetle, burro mule deer habitat, flat-tailed horned lizard habitat, and sensitive plant species in Class L and WSA 362.

### Impacts on Astragalus lentiginosis var. borreganus (Borrego milkvetch)

5. Where feasible in areas of documented or likely OHV impact, erect exclosure fences around the small dune depressions which constitute the primary habitat of this species.

Discussion: The exclosures would be areas 10 to 80 yards in diameter in the secondary dunes. Possible locations would include south of Glamis near major camping areas, near Ogilby, and in South Ogilby Dunes.

### Unavoidable Adverse Impacts

Vehicle use in the dunes will result in damage to or death of plant species driven over. Likewise, reptiles, insects, and other small dunes creatures will be injured or killed if hit by a passing vehicle. Depending on the species involved, these collisions will create a negligible to moderate impact to the regional population. Moderate impacts are possible to desert tortoise, Andrew's dune scarab beetle, flat-tailed horned lizard, and Astragalus lentiginosis var. borreganus. Minor

impacts are possible to the Colorado Desert fringe-toed lizard, Astragalus magdalenae var. peirsonii, Helianthus niveus ssp. tephrodes, Palafoxia arida var. gigantea, and Ammobroma sonorae. Negligible impacts are expected to Cryptantha costata, Lyrocarpa coulteri var. palmeri, and Croton wigginsii.

Minor negative impacts to burro mule deer habitat are anticipated in the event of development of access to and facilities at Mammoth Wash.

Although the overall impact to OHV recreation will be moderately positive, conditions within Class I use areas will become more congested. The sensitive resource monitoring program may detect impacts which will require restrictions on camping or riding within portions of Class I areas. While development of Mammoth Wash will resolve access, sanitation, and emergency response problems there, the current uncrowded "back country" character of the area will be lost.

Implementation of the BLM wilderness recommendation for WSA 360, combined with implementation of the Proposed Imperial Sand Dunes RAMP, will result in moderate negative impacts to naturalness within the northern nonsuitable portion of the WSA (1200 acres) which lies within the Mammoth Wash Open Area, following Congressional release of the lands.

Implementation of the Proposed RAMP will result in negligible to minor negative impacts to naturalness within WSA 362. Impacts will take the form of an increased frequency of tracks and development of some additional sand highways. However, overall use density will remain at a very low 0.2 VUD/acre/year. Development of new trails is therefore expected to be minimal, and wilderness suitability will not be impaired.

The overall impact of the plan on the recreation service economy of Imperial County will be moderately positive. However, concession development will result in some minor negative impacts to individual businesses at Glamis, Boardmanville, and in the surrounding communities in Imperial County.

#### Relationship Between Local Short-Term Uses of Man's Environment and the Maintenance and Enhancement of Long-Term Productivity

All present short-term uses will continue under the Proposed Action. Increased mineral development or other resource extraction activities which would decrease long-term productivity are unlikely. Implementation of the Proposed Action will have negligible to moderate negative impacts to sensitive plant and wildlife species, but viable regional populations will be maintained.

## Irreversible and Irretrievable Commitments of Resources

No significant irreversible or irretrievable commitments of resources are anticipated.

### ALTERNATIVE B - NO ACTION (No change from existing management)

#### Impacts on OHV Recreation

Overall, the No Action alternative will have a major negative impact on OHV recreation. Use levels will increase at approximately the same rate as under the Proposed Action. However, the use will be crowded into fewer parking areas and restricted to areas where access is available.

Instead of the 926,000 VUDs anticipated for the Glamis/Gecko Open Area by the year 2000 under the Proposed Action, over 1,000,000 VUDs of use will be crowded into the available space. This difference will be caused by failing to develop Mammoth Wash as an alternate use area. As use increases, many users will be forced to return to Highway 78 to park on the road shoulder, much as they did in the early 1970s prior to construction of the Imperial Sand Dunes (Gecko) Road and Gecko Campground. Litter and sanitation problems at all camping areas will be acute. Facilities at Gecko and Roadrunner Campgrounds will be totally inadequate to handle the demand, and maintenance of the facilities will be substandard. No concession RV parks will be developed to relieve some of the pressure.

By the year 2000, an estimated 518,000 VUDs of use will occur within the Buttercup Valley Open Area. This use will be crowded into the same space available for 240,000 VUDs in 1985. The toilets, telephone, and water supply at the Caltrans rest stop will be removed, with no alternate facilities available on BLM land. No concession store or RV park will be available to handle the increased demand and assist in disposal of trash and waste. Legal access for OHVs across Interstate 8 and the All-American Canal will remain an unsolved problem.

Use levels in the central dunes Class L and WSA 362 will increase at a slightly higher rate than under the Proposed Action, because of greater demand for use of the Ogilby campsite which will result from failing to develop adequate facilities to handle the demand at Buttercup. OHV use of the central dunes will be in serious jeopardy, because of failure to closely monitor the status of sensitive species and to implement protective measures if necessary. Pressure to close the central dunes and designate WSA 362 as wilderness will increase each year.

Use of the Ogilby area will increase to approximately 29,000 VUDs by 2000 as opposed to an estimated 19,000 VUDs under the Proposed Action. This will be the result of overcrowding in the other use areas, and the desire to find an uncrowded place to camp.

Use of the Mammoth Wash Open Area will remain stable due to the difficulty of access. It will remain a pleasant, uncrowded place to ride, for those who can reach it, despite some trash and sanitation problems.

Accident rates will go up within the recreation area while emergency services become progressively less adequate. BLM will no longer be able to meet emergency services needs in the Glamis/Gecko Open Area. BLM may be forced to close the Cahuilla Ranger Station and turn responsibility for accident response and safety patrols over to the Imperial County Sheriff by 1995. The overall level of emergency services will decline.

#### Impacts on General (Non-OHV) Recreation

Overall, implementation of the No Action Alternative will have a moderate negative impact to general recreation. Osborn Park will not be available as a lookout and interpretive site, except on weekdays when OHV recreation is at a minimum. In addition, very little parking will be available along Highway 78 for sightseers. On most weekends, the driver of a highway vehicle will see little of the dunes, since undivided attention will be required to avoid both oncoming traffic and the RVs crowded on the south road shoulder.

The Plank Road Interpretive Site will be developed as prescribed in the Plank Road ACEC plan. However, access to the site will be less convenient for eastbound freeway traffic, since the Grays Well Road will not be connected to the Gordons Well Interchange. The Grays Well Road extension east to the Sand Hills Interchange will be blocked by sand dunes during the summer months due to a shortage of maintenance funds, leaving the Plank Road site inaccessible to highway vehicles.

#### Impacts on Wilderness Values

Naturalness: Overall, implementation of the No Action Alternative will result in minor to moderate negative impacts to the naturalness of WSA 360. Failure to improve signing and erect physical barriers along the boundaries with Class I areas, the lack of a legal OHV corridor around the WSA, inadequate patrol capability, and the crowding of OHV use along Highway 78 will result in loss of control of the closure violation situation (see Table EA-3). Increased OHV use of the WSA will result in a decline in naturalness in the southern third of the area, and some impairment of wilderness suitability.

Despite the increased impacts to the southern part of WSA 360, impacts to the northern non-suitable portion of the WSA within the Mammoth Wash Open Area will be negligible under Alternative B, since use of the Mammoth Wash Class I lands will not increase.

TABLE EA-3            ANTICIPATED INCIDENCE OF CLOSURE VIOLATIONS  
ALGODONES NATURAL AREA (WSA 360)  
UNDER THE NO ACTION ALTERNATIVE

Disposition of Incident	1985 (actual)	1995	2000
Evidence of violation observed - No violator apprehended	348	1000	1500
Verbal Warning Issued	26	100	150
Written Warning Issued	5	25	50
Citations Issued	<u>64</u>	<u>150</u>	<u>150</u>
Total Known Violations	443	1275	1850

Alternative B will result in impacts to naturalness within WSA 362 similar to those of Alternative A, except in the immediate area of the Ogilby campsite, where impacts will be somewhat greater because use will be 35% higher than under the Proposed Action. Sensitive plants and wildlife will not be closely monitored and protective actions based on monitoring studies will not be implemented since negative impacts will not be detected.

Solitude: Minor negative impacts to opportunities for solitude are anticipated within WSA 360 but overall opportunities will remain good to outstanding. The feeling of solitude will decrease with the increase in tracks in the southern portion of the WSA, but it will still be very possible to find solitude.

Impacts to solitude will be negligible within WSA 362, as in the case of Alternative A, with the exception of minor additional impacts in the Ogilby area.

Primitive and Unconfined Recreation: Negligible to minor negative impacts will occur within WSA 360. No trailhead parking area will be developed, and opportunities will not be publicized. Outstanding opportunities will remain for the few who use the area, however.

Impacts within WSA 362 will be identical to those of the proposed action.

Special Features: As in the case of the Proposed Action, impacts to the dune formations will be negligible. Impacts to sensitive biological resources are discussed by species as separate issues.

#### Impacts on Burro Mule Deer Habitat

Negligible to minor negative impacts are anticipated under Alternative B. While use of the Mammoth Wash Open Area by OHVs will remain stable, increased OHV disturbance of windmill sites on Class C lands within WSA 360 is expected. The level of disturbance of windmill sites within the closed area will be lower than that anticipated for the two northern windmill sites under Alternative A. However, the sites in the closed area are of higher quality and are more heavily used by deer.

#### Impacts on Couch's Spadefoot Toad Habitat

Impacts will be similar to those of the Proposed Action. Impacts may be somewhat greater in the Ogilby area, due to higher anticipated use levels, but similar overall impacts would be expected.

#### Impacts on Candidate Species for Federal Listing as "Threatened" or "Endangered"

Astragalus magdalenae var. peirsonii (Peirson's milkvetch): Impacts are expected to be similar to those of Alternative A. However, OHV use of the Ogilby area and WSA 360 will be higher under this alternative than under Alternative A. No monitoring program will be implemented, so it will be impossible to determine actual trends or to implement timely protective actions if unanticipated impacts occur.

Helianthus niveus ssp. tephrodes (Silver-leafed dune sunflower): Impacts are expected to be identical to those of Alternative A. Increased OHV use of the high primary dunes within WSA 360 is anticipated under Alternative B, and this will result in minor negative impacts within the WSA. Nevertheless, the species should maintain a healthy, viable population. No monitoring program will be implemented to confirm this, however.

Palafoxia arida var. gigantea (Giant Spanish needle): Impacts are expected to be identical to those of Alternative A. However, no research into critical environmental factors affecting populations of this annual species will be conducted, and actual trends will remain unknown.

Desert Tortoise: Impacts are expected to be negligible under Alternative B. No major changes in OHV use levels are anticipated within the probable habitat of this species.

Andrew's Dune Scarab Beetle: As in the case of Alternative A, negligible to minor negative impacts are expected. While facility development south of Glamis will not occur, use of the Ogilby campsite will increase more than under Alternative A. The net effect will be a similar overall increase in OHV use within the secondary dunes, which are prime habitat for the beetle.

Baseline studies to further define distribution of the beetle will not be implemented, and the actual impacts of Alternative B will not be determined through monitoring.

Flat-tailed Horned Lizard: Use of Ogilby and Pilot Knob Mesa will be greater under Alternative B than Alternative A. Since Pilot Knob Mesa is the location of most known east-side sightings, the potential for moderate negative impacts is higher under Alternative B. Use of the South Ogilby Dunes area is expected to be identical under both Alternative A and Alternative B (very low) despite the difference in OHV designation ("Open" under Alternative A, "Limited" under Alternative B). No population studies will be conducted, so actual distribution and trends will remain unknown.

Colorado Desert Fringe-Toed Lizard: Impacts are expected to be identical to those of Alternative A, although no studies will be done to determine actual trends.

#### Impacts on Other Plant Species Considered Sensitive

Ammobroma sonorae (Sand Food): Impacts are expected to be identical to those of Alternative A, although no studies will be done to monitor actual trends.

Astragalus lentiginosis var. borreganus (Borrego milkvetch): Impacts are expected to be identical to those of Alternative A, although no studies will be done to monitor actual trends.

Cryptantha costata (Ribbed cryptantha): Impacts are expected to be negligible. However, increased OHV use of WSA 360 is anticipated under alternative B. Since this species is known from a single location within the WSA, the potential for impact to the species is perhaps slightly greater under Alternative B. Since no monitoring studies will be done, it will not be known if the plant actually has a wider distribution, or if impacts have occurred.

Lyrocarpa coulteri var. palmeri (Coulters lyrepod): Impacts to this species are expected to be negligible (See discussion for ribbed cryptantha above).

Croton wigginsii (Wiggins' croton): Impacts are expected to be identical to those of Alternative A.

#### Impact on Private Recreation Service Businesses in Imperial County

Overall, Alternative B will have a negligible to minor positive impact on recreation service businesses within Imperial County. Vendors will continue to operate adjacent to the private businesses at Glamis and Boardmanville, resulting in negative impacts ranging from minor to moderate depending on the weekend. No concession facilities will be developed, resulting in a minor positive overall impact to Glamis and Boardmanville businesses, which will then be the main beneficiaries of projected use increases.

Since use increases similar to that of Alternative A will occur, the impact to recreation service businesses within Imperial County will be identical to that of Alternative A through Level 3. The lack of concession stores in the dunes will have a minor positive impact to similar businesses in adjacent communities. However, most dunes users buy the bulk of their supplies at home before coming to Imperial County. Failure to develop concessions in the dunes would mean that fewer overall recreation dollars would be spent in Imperial County than under Alternative A.

#### ALTERNATIVE C - SOUTH OGILBY CLOSURE

##### Impacts on OHV Recreation

Impacts would be identical to those of the Proposed Action, with the exception of minor negative impacts to OHV recreation at South Ogilby Dunes. An estimated 1000 VUDs of OHV recreational use would be displaced from the area.

##### Impacts on General (Non-OHV) Recreation

Impacts would be identical to those of the Proposed Action, with the exception that the annual ceremony located just south of the Ogilby interchange would be displaced from the area. This ceremony involves about 125 visitors who camp on two acres immediately adjacent to the interchange for a weekend. No OHVs are involved, although about 50-75 private trucks and autos are parked in the area during the event.

##### Impacts on Wilderness Values

Impacts would be identical to those of the Proposed Action.

#### Impacts on Burro Mule Deer Habitat

Impacts would be identical to those of the Proposed Action.

#### Impacts on Couch's Spadefoot Toad Habitat

Some low pockets potentially suitable as spadefoot toad habitat exist in the South Ogilby area, though the species is not recorded from that area and OHV use of the pockets is low. Assuming the toad is present, some habitat sites could be protected by closure. However, overall impacts to habitat recreation area-wide would be expected to be very similar under Alternative A and C.

#### Impacts on Candidate Species for Federal Listing as "Threatened" or "Endangered"

Astragalus magdalenae var. peirsonii (Peirson's milkvetch): Impacts to Peirson's milkvetch would be identical to those of the Proposed Action. This species is present in very low numbers in the South Ogilby area. Prime habitat is in other parts of the dunes system. Closure of this area would not significantly contribute to protection of the species.

Helianthus niveus ssp. tephrodes (Silver-leafed dune sunflower): Impacts to silver-leafed dune sunflower would be identical to those of the Proposed Action. The species is present in very low numbers. Prime habitat is in other parts of the dune system. Closure of the South Ogilby area would not significantly contribute to the protection of the species.

Palafoxia arida var. gigantea (Giant Spanish needle): Impacts to giant Spanish needle would be identical to those of the Proposed Action. This species is present in very low numbers within the South Ogilby area. Prime habitat is in other parts of the dune system. Closure of this area would not significantly contribute to protection of this species.

Desert Tortoise: Impacts to desert tortoise would be identical to those of the Proposed Action. Desert tortoise are not known to occur in the South Ogilby area.

Andrew's Dune Scarab Beetle: Andrew's dune scarab beetle is likely to occur in the South Ogilby area. Although this area was not surveyed in 1979, an older record indicates the beetle is present. Closure of this area of low OHV use would have a minor positive impact to beetle habitat within the South Ogilby area, but overall impacts of this alternative would be virtually identical to those of the Proposed Action.

Flat-tailed Horned Lizard: As is the case with other areas along the creosote bush scrub/secondary dunes margin, the South Ogilby Dunes is considered good flat-tailed horned lizard habitat. Closure of the area would protect this habitat. However, the positive effects of closure would be relatively minor since current OHV use of the area is low and is not expected to increase significantly. Overall, Alternative C would result in impacts very similar to those of the Proposed Action (minor to moderate negative impacts recreation area-wide).

Colorado Desert Fringe-Toed Lizard: This species is likely to be present in the South Ogilby area. Closure of this area of low OHV use would have a minor positive impact to the habitat of this species. Recreation area-wide, impacts would be very similar to those of the Proposed Action.

#### Impacts on Other Plant Species Considered Sensitive

Ammobroma sonorae (Sand Food): This species is present at moderate to high densities within the South Ogilby area. Other high density areas include the Buttercup Valley Open Area and central WSA 362. Closure of this area of low OHV use would have a minor positive impact on this species within the South Ogilby area. Recreation area-wide, Alternative C would produce negligible to very minor negative impacts to this species.

Astragalus lentiginosis var. borreganus (Borrego milkvetch): This species occurs in moderate to high densities in small dune depressions in the South Ogilby area, as well as secondary dune areas to the north. Closure of the area would have a minor positive impact to the species by eliminating the infrequent incidence of OHV disturbance now occurring. Recreation area-wide, Alternative C would result in minor negative impacts to the species.

Cryptantha costata (Ribbed cryptantha): This species is not known to occur in the South Ogilby area. Impacts would be identical to those of the Proposed Action.

Lyrocarpa coulteri var. palmeri (Coulters lyreped): This species is not known to occur in the South Ogilby area. Impacts would be identical to those of the Proposed Action.

Croton wigginsii (Wiggins' croton): This species is present in very low numbers within the South Ogilby area, although an isolated stand occurs a short distance to the east of the recreation area boundary. Closure would have a negligible impact to this species. Overall, impacts of Alternative C would be identical to those of the Proposed Action.

Impact on Private Recreation Service Businesses in Imperial County

Impacts would be identical to those of the Proposed Action.

# APPENDICES



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# APPENDIX A

## Sensitive Species, Baseline Data and Monitoring Studies

## APPENDIX A - SENSITIVE SPECIES BASELINE DATA AND MONITORING STUDIES

BASELINE STUDIES<sup>1,2</sup>

Level	Study	Area	Cost	Must be Completed Prior to Implementation of These Prescriptions
1	threatened & endangered plants	throughout (1977)		
	scarab beetle	localized sites primarily east side, some on west side.		
	flat-tailed horned lizard	some--Pilot Knob Mesa, Dune Buggy Flats, WSA 362		
	burro deer	windmills		
2	scarab beetle-- supplementary, focused inventory; use this to identify sites for establishment of up to 10 permanent plots for monitoring	secondary dunes in Class C, L & M	\$7,000/yr. for one year <sup>3</sup>	6-13 6-17 6-28 6-31 6-32 6-33 8-7 8-8 8-9
	flat-tailed horned lizard (transects to supplement existing data; if results warrant, use information to establish permanent transects)	creosote bush habitat in Class L, M, & I	\$4,000/yr. for one year <sup>3</sup>	6-13 6-17 6-28 6-31 6-32 6-33 8-7 8-8 8-9

Level	Study	Area	Cost	Must be Completed Prior to Implementation of These Prescriptions
	Colorado Desert fringe-toed lizard (general baseline inventory to be used to choose sites for permanent transects)	primary & secondary dunes in Class C, L, & M	\$10,000/yr. for one year <sup>3</sup>	6-13 6-17 6-28 6-31 6-32 6-33 8-7 8-8 8-9
	burro deer (track counts, general observation, time lapse filming)	WSA 360	in house	1-13
3	desert tortoise (transects)	Mammoth Wash area	\$2,000 for one year <sup>3</sup>	6-34 6-35 6-36 6-37 8-10
	burro deer (track counts)	Mammoth Wash	in house	6-34 6-35 6-36 6-37 8-10
	flat-tailed horned lizard (transects)	Mammoth Wash, WSA 360	\$1,200/yr. for one year <sup>3</sup>	6-34 6-35 6-36 6-37 8-10
	Colorado Desert fringe-toed lizard (transects)	Mammoth Wash, WSA 360	\$1,200/yr. for one year <sup>3</sup>	6-34 6-35 6-36 6-37 8-10

<sup>1</sup>Studies for other species of interest (such as Couch's spadefoot toad) will be included in the Imperial Sand Dunes Wildlife Habitat Management Plan, to be prepared in 1987.

<sup>2</sup>USFWS will advise BLM on study design and determination of thresholds of unacceptable decline.

<sup>3</sup>Minimum required. Additional years may be required depending on results of first year inventories.

MONITORING STUDIES<sup>1,2</sup>

Level	Study	Area	Cost	Must be Initiated Prior to Implementation of These Prescriptions
2	threatened and endangered plants (establish charac- terization and photo plots; small exclosures based on Westec inventory)	focused sites in primary and secondary dunes in Class C,L,M	\$10,000 1st year, then \$5,000/yr. every other year.	6-18 6-19 6-28 6-29 6-31 6-32 6-33 8-7 8-8 8-9
	scarab beetle	focused sites in Class C, L, & M (as warranted based on baseline work)	\$4,000/yr. every other year	6-18 6-19 6-28 6-29 6-31 6-32 6-33 8-7 8-8 8-9
	flat-tailed horned lizard	focused sites in creosote bush scrub in Class L, M, & I (as warranted based on baseline work)	\$4,000/yr. every other year.	6-18 6-19 6-28 6-29 6-31 6-32 6-33 8-7 8-8 8-9
	Colorado Desert fring-toed lizard	focused sites in primary and secondary dunes in Class C, L, M (as warranted based on baseline work)	\$4,000/yr. every other year	6-18 6-19 6-28 6-29 6-31 6-32 6-33 8-7 8-8 8-9

Level	Study	Area	Cost	Must be Initiated Prior to Implementation of These Prescriptions
	burro deer	WSA 360		1-13
	veg. condition (set up characterization and photo plots; small exclosures; very low level strip photo transects)	Class C, L, & M	\$6,000/yr. 1st year, \$2,000/yr. every other year	6-18 6-19 6-28 6-29 6-31 6-32 6-33 8-7 8-8 8-9
3	desert tortoise	Mammoth Wash area (if warranted by baseline inven- tories)	\$2,000/yr. every other year	6-34 6-35 6-36 6-37 8-10
	burro deer	Mammoth Wash	in house	6-34 6-35 6-36 6-37 8-10
	flat-tailed horned lizard	Mammoth Wash, WSA 360 (if warranted by baseline inven- tories)	\$1,000/yr. every other year	6-34 6-35 6-36 6-37 8-10
	Colorado Desert fringe-toed lizard	Mammoth Wash, WSA 360	\$1,000/yr. every other year	6-34 6-35 6-36 6-37 8-10
	threatened and endangered plants	Mammoth Wash, WSA 360	\$1,000/yr. every other year	6-34 6-35 6-36 6-37 8-10
	veg. condition	Mammoth Wash, WSA 360	\$1,000/yr. every other year	6-34 6-35 6-36 6-37 8-10

Plus: maintain level 2 monitoring.

4 Maintain level 2 and 3 monitoring.

5 Maintain level 2 and 3 monitoring.

<sup>1</sup>Studies for other species of interest (such as Couch's spadefoot toad) will be included in the Imperial Sand Dunes Wildlife Habitat Management Plan, to be prepared in 1987.

<sup>2</sup>USFWS will advise BLM on study design and determination of thresholds of unacceptable decline.



## APPENDIX B



## APPENDIX B - WILDERNESS STUDY AREA NONIMPAIRMENT CRITERIA

An activity will be considered nonimpairing if the BLM determines that it meets each of the following criteria:

(a) It is temporary. This means that the use or activity may continue until the time when it must be terminated in order to meet the reclamation requirement of paragraphs (b) and (c) below. A temporary use that creates no new surface disturbance may continue unless Congress designates the area as wilderness, so long as it can easily and immediately be terminated at that time, if necessary to management of the area as wilderness.

(b) Any temporary impacts caused by the activity must, at a minimum, be capable of being reclaimed to a condition of being substantially unnoticeable in the wilderness study area as a whole by the time the Secretary of the Interior is scheduled to send his recommendations on that area to the President, and the operator will be required to reclaim the impacts to that standard by that date. If the wilderness study is postponed, the reclamation deadline will be extended accordingly. If the wilderness study is accelerated, the reclamation deadline will not be changed. A full schedule of wilderness studies will be developed by the Department upon completion of the intensive wilderness inventory. In the meantime, in areas not yet scheduled for wilderness study, the reclamation will be scheduled for completion within 4 years after approval of the activity. (Obviously, if and when the Interim Management Policy ceases to apply to an inventory unit dropped from wilderness review following a final wilderness inventory decision of the BLM State Director, the reclamation deadline previously specified will cease to apply.) The Secretary's schedule for transmitting his recommendations to the President will not be changed as a result of any unexpected inability to complete the reclamation by the specified date, and such inability will not constrain the Secretary's recommendation with respect to the area's suitability or unsuitability for preservation as wilderness.

The reclamation will, to the extent practicable, be done while the activity is in progress. Reclamation will include the contouring of the topography to a natural appearance (not necessarily to the original contour), the replacement of top soil, and the restoration of plant cover at least to the point where natural succession is occurring. Plant cover will be restored by means of reseeding or replanting, using species previously occurring in the area. If necessary, irrigation will be required. The reclamation will be complete, and the impacts will be substantially unnoticeable in the area as a whole, by the time the Secretary is scheduled to send his recommendations to the President.

(c) When the activity is terminated, and after any needed reclamation is complete, the area's wilderness values must not have been degraded so far, compared with the area's values for other purposes, as to significantly constrain the Secretary's recommendation with respect to the area's suitability or nonsuitability for preservation as wilderness. The wilderness values to be considered are those mentioned in section 2(c) of the Wilderness Act, including naturalness, outstanding opportunities for solitude or for primitive and unconfined recreation, and ecological, geological or other features of scientific, educational, scenic, or historical value.

\*Source: Interim Management Policy (IMP) and Guidelines for Lands Under Wilderness Review, BLM, 1979 (Revised 1983).

# Buttercup Valley Open Area



## APPENDIX C - OHV CORRIDOR ANALYSIS BUTTERCUP VALLEY OPEN AREA

The Problem: Interstate Highway 8 and the All-American Canal serve to split the Buttercup Valley Open Area into two separate subunits - Buttercup Valley/Grays Well on the south and Gordons Well/Dune Buggy Flats on the north (See Map C-1). Highway vehicles can legally drive from one side to the other using the Interstate 8 bridges across the canal. There is no legal access for OHVs between the two sides. The Imperial Irrigation District will not grant an easement for public use of its Drop 1 bridge over the All-American Canal because of liability problems. As a result of the lack of OHV access, dangerous and illegal OHV crossings of the freeway and OHV use of the freeway canal bridges frequently occur.

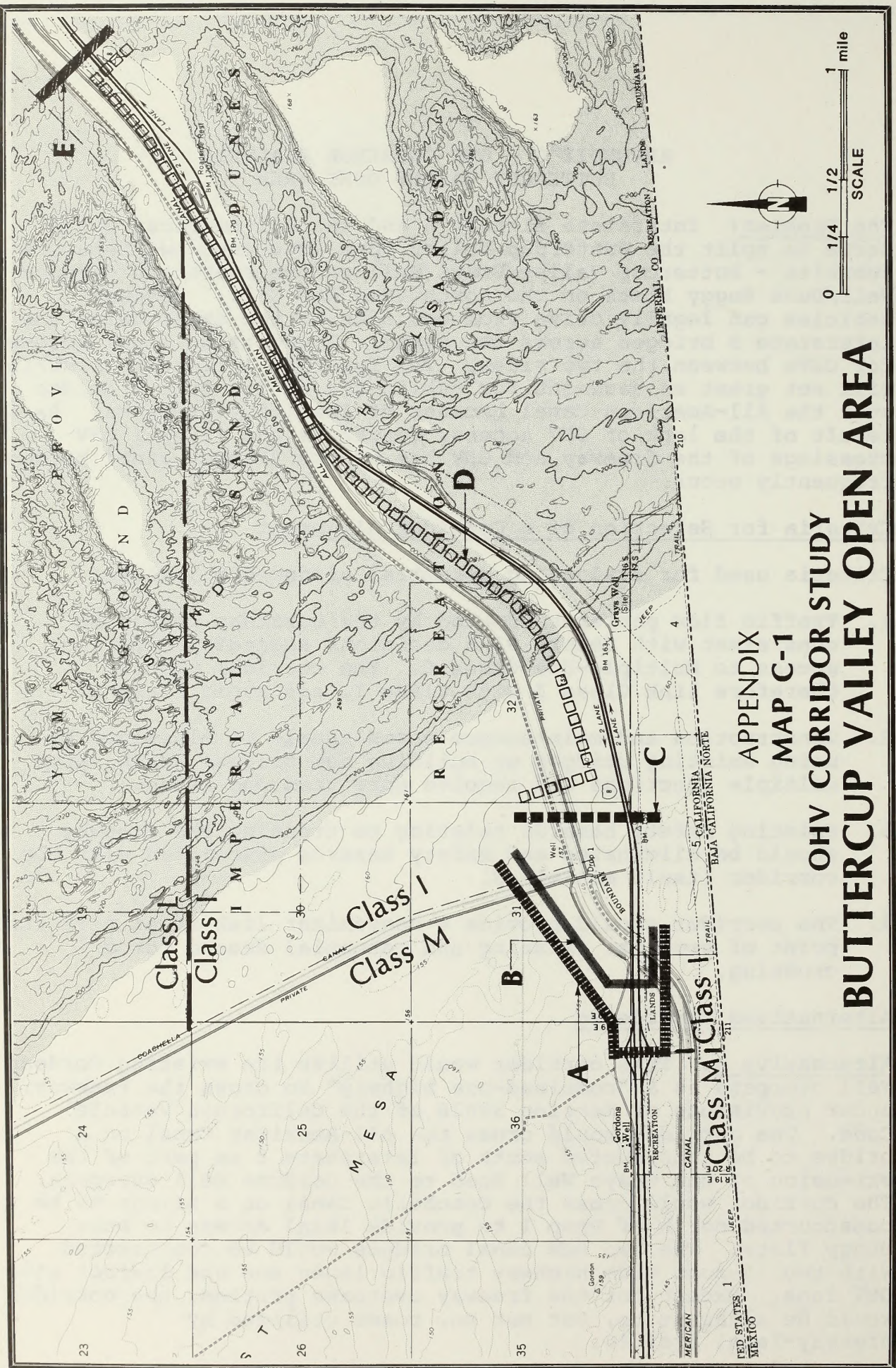
### Criteria for Selection of a Corridor Alignment

Criteria used for evaluating potential alignments include:

1. Traffic flow patterns created by the corridor should be consistent with Desert Plan decisions regarding limiting access to Multiple-Use Class I. The corridor should therefore link Class I with Class I, and avoid Class L.
2. Construction and maintenance costs should be minimized by using existing bridges or building new bridges which serve multiple functions and resolve more than one issue.
3. Existing safety hazards relating to crossing the freeway should be eliminated and safety hazards associated with the corridor itself minimized.
4. The corridor should provide a convenient link at or near the point of greatest existing and potential demand for a crossing.

### Alternatives Considered

Alternative A: This corridor would utilize the existing Gordons Well overpass as a "combined-use highway" to cross the freeway, under provisions of Section 38026 of the California Vehicle Code. The corridor would cross the All-American Canal on a bridge to be constructed south of Interstate 8 as part of the extension of the Grays Well Road to the Gordons Well overpass. The corridor would cross the Coachella Canal on a bridge to be constructed north of Drop 1 to provide legal access to Dune Buggy Flats. The two new canal bridges would be constructed with two 15-foot wide highway traffic lanes and one 15-foot wide OHV lane. Except for the freeway overpass portion, the corridor would be adjacent to, but not on, roads utilized by highway-legal traffic.



Alternative B: This corridor would cross the All-American and Coachella Canals on the same bridges identified for Alternative A. A separate OHV overpass would be constructed over Interstate 8 between the Gordons Well overpass and the All-American Canal.

Alternative C: This corridor would involve construction of an OHV freeway overpass and OHV bridge over the All-American Canal, approximately 1/4 mile east of the Drop 1 hydroelectric station.

Alternative D: This corridor would utilize the proposed Sand Hills Interchange overpass as a "combined-use highway" to cross the freeway, under provisions of Section 38026 of the California Vehicle Code. North of the freeway, the corridor would turn west, running between the freeway and the All-American Canal for 3.5 miles. At a point approximately 1/4 mile east of the Drop 1 hydroelectric station, it would cross the All-American Canal on a new OHV bridge as in Alternative C.

Alternative E: As with Alternative D, this corridor would utilize the proposed Sand Hills Interchange overpass to cross Interstate 8. An OHV bridge over the All-American Canal would be constructed immediately north of the Sand Hills Interchange.

### Analysis of Alternatives

#### Alternative A:

Criteria 1 - Consistent with Desert Plan.

The corridor links Class I with Class I, and avoids Class L.

Criteria 2 - Costs

All-American Canal Bridge	\$140,000*
Gordons Well Overpass Signing	10,000
Coachella Canal Bridge	70,000*
Misc. Corridor Signing (2.5 mi.)	3,000
TOTAL CONSTRUCTION	<u>\$223,000</u>

Annual Maintenance (all bridges)	8,000*
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\*Costs for the two multi-function canal bridges are for the OHV lane portion of the bridges only.

Criteria 3 - Safety

This corridor would eliminate the safety hazards associated with illegal at-grade freeway crossings.

However, some hazards would be created at the point where the OHV corridor shares the Gordons Well overpass with highway traffic. These hazards, which include cross traffic from the interchange ramps and the possibility of OHVs utilizing the freeway ramps to access the freeway can be minimized, though not eliminated, with proper signing. Overall, safety would be much improved over the existing situation.

#### Criteria 4 - Convenient Link

The link would be convenient for users of both the Grays Well and Dune Buggy Flats areas, which together constitute about 70% of the total use of the Open Area. The crossing is also located near the focal point which will be created by concession development west of Grays Well.

The link would be least convenient for users of the Buttercup Valley area, who would have to ride about 4 miles out of their way to reach Dune Buggy Flats.

#### Alternative B:

#### Criteria 1 - Consistent with Desert Plan

The corridor links Class I with Class I, and avoids Class L.

#### Criteria 2 - Costs

All-American Canal Bridge	\$ 140,000*
OHV Overpass (20 ft. width)	1,000,000
Coachella Canal Bridge	70,000*
Misc. Corridor Signing (1.7 mi.)	1,500
TOTAL CONSTRUCTION	<u>\$1,211,500</u>
Annual Maintenance (Avg.)	\$15,000

\*Costs for the two multi-function canal bridges are for the OHV lane portion of the bridges only.

#### Criteria 3 - Safety

Since this corridor would utilize an overpass which is not used by highway traffic and would have no ramps communicating directly with the freeway, maximum safety would be achieved.

#### Criteria 4 - Convenient Link

See analysis for Alternative A.

### Alternative C:

#### Criteria 1 - Consistent with Desert Plan

The corridor links Class I with Class I, and avoids Class L.

#### Criteria 2 - Costs

All-American Canal Bridge (20 ft. width)	\$ 240,000
OHV Overpass (20 ft. width)	1,000,000
Misc. Corridor Signing (0.6 mi.)	1,000
Overpass Signing	10,000
TOTAL CONSTRUCTION	<u>\$1,251,000</u>

Annual Maintenance (Avg.)	\$15,000
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#### Criteria 3 - Safety

See analysis for Alternative B

#### Criteria 4 - Convenient Link

This corridor would provide the most convenient access of any of the alternatives for users of the Grays Well and Dune Buggy Flats areas. It would be a moderate improvement over Alternatives A and B for Buttercup Valley users, but they would still be forced to ride about 2.5 miles out of their way to go between Buttercup and Dune Buggy Flats.

### Alternative D:

#### Criteria 1 - Consistent with Desert Plan

This corridor links two Class I areas, and avoids Class L.

#### Criteria 2 - Costs

All-American Canal Bridge	\$240,000
Sand Hills Overpass Signing	10,000
Misc. Corridor Signing (4.8 mi.)	4,000
TOTAL CONSTRUCTION	<u>\$254,000</u>

Annual Maintenance	\$8,000
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### Criteria 3 - Safety

The safety situation for Alternative D would be similar to that for Alternative A. Both alternatives would require joint use of the traffic lanes of the overpass by highway and off-highway vehicles. Overall, however, safety would be much improved over the present situation.

### Criteria 4 - Convenient Link

Alternative D would provide a convenient link between Dune Buggy Flats and the Buttercup Valley area. It would be very inconvenient, however, for those camped at Dune Buggy Flats to go to Grays Well, and vice versa. The Grays Well area is proposed for concession development, and the west side of the dunes receives 70% of the total camping use in the open area. Implementation of Alternative D would ignore the likely future public demand for convenient access to concession facilities from all parts of the open area.

### Alternative E:

#### Criteria 1 - Consistent with Desert Plan

Alternative E would link a heavily used Class I area with the central dunes Class L area. It would contribute to a significant increase in use of the southern part of the central dunes Class L lands. This is inconsistent with the Desert Plan decision to not encourage additional access into the central dunes.

#### Criteria 2 - Cost

All-American Canal Bridge	\$240,000
Sand Hills Overpass Signing	10,000
Misc. Corridor Signing (0.2 mi.)	800
TOTAL CONSTRUCTION	<u>\$250,800</u>
Annual Maintenance (Avg.)	\$8,000

#### Criteria 3 - Safety

See analysis for Alternative D.

#### Criteria 4 - Convenient Link

This link would be most convenient for Buttercup Valley users seeking access to the central dunes Class L area. It would serve to draw Dune Buggy Flats users seeking to reach Buttercup Valley onto Class L lands. It also shares the shortcomings of Alternative D with regard to access between Dune Buggy Flats and Grays Well.

#### Recommendation and Rationale

Alternative A is recommended for implementation because it satisfies Criteria 1, 3, and 4 at the lowest cost. Potential safety hazards associated with OHV use of the Gordons Well overpass will be resolved with signing and patrols to enforce the safety, registration, and equipment requirements of Section 38026.5 of the California Vehicle Code.

In the event that designation of the Grays Well overpass is rejected as a joint-use highway by one or more of the governmental bodies or agencies which must approve the designation, Alternative B is the Bureau's second choice for implementation. Alternative B requires construction of one less bridge overall than Alternative C (assuming that the Coachella Canal bridge for legal access to Dune Buggy Flats and the Grays Well Road bridge over the All-American Canal are constructed regardless of which strictly-OHV bridges are built). It thus presents less of a continuing maintenance commitment than Alternative C, as well as a lower initial construction cost, when overall costs are considered.

Alternative D is not recommended for implementation because it does not adequately accomodate the anticipated demand for convenient access between Dune Buggy Flats and Grays Well. Alternative E is not recommended for implementation because it is inconsistent with the Desert Plan decision to limit access to Class L.



# APPENDIX D

## Glossary

APPENDIX D - GLOSSARY

1. **Abandonment** - The permanent transfer of the title of a property to another party, by deed or other legal instrument.

2. **Acquisition** - The process of obtaining title to property, whether by purchase, gift, or other means.

3. **Adverse Possession** - The acquisition of title to property by a person who occupies the property for a certain period of time.

4. **Appraisal** - The process of determining the value of property for taxation or other purposes.

5. **Assessment** - The process of determining the value of property for taxation.

6. **Assessment** - The process of determining the value of property for taxation.

7. **Assessment** - The process of determining the value of property for taxation.

8. **Assessment** - The process of determining the value of property for taxation.

9. **Assessment** - The process of determining the value of property for taxation.

10. **Assessment** - The process of determining the value of property for taxation.

11. **Assessment** - The process of determining the value of property for taxation.



## APPENDIX D - GLOSSARY

ACCESS EASEMENT: Legal permission granted by the owner of a property to another entity, to enter or cross the property for specified purposes.

ACEC: Area of Critical Environmental Concern. An area identified as requiring special management attention to protect important biological, geological, or cultural resources.

APIARY SITE: A place where commercial honey-producing bees are kept.

ATV: All-Terrain Vehicle. A three- or four-wheeled vehicle equipped with low pressure tires, and with a seat straddled by the rider.

BLM: Bureau of Land Management

CHP: California Highway Patrol

CLASS C (Controlled): The most restrictive of the four Desert Plan multiple-use classes, assigned only to wilderness study areas that have been preliminarily recommended as suitable for wilderness designation by Congress.

CLASS L (Limited): Provides for low intensity, carefully controlled use. Usually assigned to areas of particularly sensitive or important natural or cultural resources. Facilities that provide for resource protection may be constructed in this class.

CLASS I (Intensive): Areas where concentrated use of land and resources is intended. Includes areas set aside for intensive off-highway vehicle recreation. This class is suitable for development of facilities for intensive recreation use.

CLASS M (Moderate): Intended to provide a balance between resource protection and use. Recreation facility developments may be constructed in this class.

CLOSED AREA: An area where motorized vehicles are not allowed. Non-motorized uses such as hiking and horseback riding are usually allowed and encouraged in Closed Areas, except in present and former military bombing ranges, which are closed to all forms of human entry. The perimeter of all Closed Areas is posted with signs to inform the public of the types of uses allowed.

CNPS: California Native Plant Society

DAY-USE FACILITY: A recreational development where overnight parking or camping is not allowed.

DESERT PLAN: The California Desert Conservation Area Plan, completed in 1980. This Congressionally-mandated document provides long-range, general guidance for management of all BLM-administered public lands in the California Desert, including the Imperial Sand Dunes.

DISPERSED AREA: An area lacking a campground or similar recreation facility which would serve to cluster visitors in one location. In a dispersed area, visitors are scattered at various informal, undeveloped campsites.

EA: Environmental Assessment. A document prepared to predict and evaluate an action's effect on the natural environment and human communities.

EMT: Emergency Medical Technician. A person trained and State-certified to provide emergency care at the scene of an accident or illness.

ENCROACHMENT PERMIT: Legal permission granted by the holder of a right-of-way to another entity, to enter or cross the right-of-way with a road or structure.

ENDANGERED SPECIES: An animal or plant species which is in danger of extinction throughout all or a significant portion of its range (as defined in The Endangered Species Act Amendments of 1982). This is the definition used by the U.S. Fish and Wildlife Service. The State of California and the California Native Plant Society define the term slightly differently.

FLPMA: Federal Land Policy and Management Act of 1976. The Congressional Act that directed BLM to manage the public lands according to the principles of multiple-use and sustained yield. Section 601 of the act established the California Desert Conservation Area and called for development of the Desert Plan. Section 603 called for BLM to review roadless areas for potential inclusion in the National Wilderness Preservation System, and mandated interim management protection of wilderness study areas.

FWS: U.S. Fish and Wildlife Service.

GREEN STICKER: Evidence of registration with the State of California Department of Motor Vehicles, required to be displayed on all OHVs.

HMP: Habitat Management Plan. A plan developed specifically for a certain wildlife habitat area that requires an intensive management effort.

IMP: Interim Management Policy and Guidelines for Lands Under Wilderness Review. A BLM document that prescribes guidelines for the management of Wilderness Study Areas until Congress decides whether or not to designate these areas as wilderness.

INTERMITTENT: An employee who works less than 40 hours per week.

KGRA: Known Geothermal Resource Area. An area in which the geology, nearby discoveries, competitive interest, or other evidence would, in the opinion of the Secretary of the Interior, cause those with experience in the field to believe that the prospects for extraction of geothermal steam or associated geothermal resources are good enough to warrant expenditures of money for that purpose. Major portions of the Glamis and Dunes KGRAs overlap the Imperial Sand Dunes Recreation Area.

LIMITED AREA: A place where motor vehicles are restricted to a system of approved routes. Other restrictions may apply, and may vary from one Limited Area to another.

LONG TERM VISITOR AREA: A place on public lands where, after paying a fee and obtaining a permit, visitors may camp for up to 8 months between October 1 and May 31.

MULTIPLE-USE CLASSES: A classification system developed as part of the Desert Plan, with guidelines describing the types of land uses and resource management techniques appropriate to each class. Most lands in the California Desert Conservation Area have been assigned to one of the four multiple-use classes: Class C, L, M, or I. Small acreages, notably those proposed for sales or withdrawal to other agencies, remain unclassified.

OHV: Off-highway Vehicle. A general term referring to all types of vehicles capable of operation off maintained roads, including motorcycles, ATV's, dune buggies, and four-wheel drive vehicles.

OHV DESIGNATION: The designation of public land for off-highway vehicle use. Lands in the California Desert Conservation Area have been designated as "Open," "Closed," or "Limited" for OHV use.

OPEN AREA: A place where motor vehicles may travel anywhere; i.e., cross-country travel is allowed.

PCAO: President's Commission on Americans Outdoors. A group created by President Reagan to research what Americans will want to do outdoors over the next generation, and to recommend how the public and private sectors can ensure there will be appropriate opportunities to meet that need. The Commission is scheduled to make its final report and recommendations to the President by December 31, 1986.

PLANK ROAD: A one-lane wooden road which was the first automobile thoroughfare to cross the Imperial Sand Dunes between 1914 and 1926. Remnants of the Plank Road are now designated as an Area of Critical Environmental Concern (ACEC).

RAMP: Recreation Area Management Plan. A plan prepared for recreation areas requiring special management.

RV: Recreational Vehicle. This term is normally used to describe large, self-contained camping vehicles such as motorhomes and travel trailers.

SEASONAL: An employee who works for only part of the year, but who works full-time (40 hours per week) during the period of employment.

STATE OHV FUND: A fund generated by the State of California through collection of off-highway vehicle "green sticker" registration fees, one percent of State gasoline taxes, and fines from violations at State Vehicular Recreation Areas. Grants from the fund are made available to Federal, State, and local governmental entities to acquire, develop, operate, and maintain OHV recreation areas. Sometimes called the "green sticker fund."

THREATENED SPECIES: An animal or plant species which is likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range (as defined in the Endangered Species Act Amendments of 1982). This is the definition used by the U.S. Fish and Wildlife Service. The State of California and the California Native Plant Society define the term slightly differently.

VUD: Visitor Use Day. One VUD is equal to 12 hours spent by one person in the pursuit of recreation.

WHOOPE-DE-DOS: A series of closely spaced undulations in the surface of an off-highway vehicle trail, created by the tires of the vehicles. Whoop-de-dos make the trail difficult to use for some types of vehicles, particularly large RVs.

WSA: Wilderness Study Area. A roadless area of public lands which BLM has determined possesses the wilderness qualities described in the Wilderness Act of 1964. WSAs were established in order to study the suitability of the areas for possible designation as wilderness by Congress. Through the IMP, BLM protects each WSA's wilderness qualities until Congress decides whether or not the WSA will be designated as wilderness.



## APPENDIX E

## Participants in the Planning Effort



## APPENDIX E - PLANNING PARTICIPANTS

### Bureau of Land Management, California Desert District

#### Line Participation

Gerald E. Hillier - District Manager  
Richard E. Crowe - Assistant District Manager, Division of Operations  
Wesley T. Chambers - Assistant District Manager, Division of Lands & Renewable Resources

#### Staff Participation

David B. Mensing - Outdoor Recreation Planner  
David Frimerman - Civil Engineer  
Clara J. Stapp - Illustrator  
Candy Johnson - Chief, Public Affairs  
G. Faye Bostic - Support Services Supervisor

### Bureau of Land Management, El Centro Resource Area

#### Line Participation

Roger D. Zortman - Area Manager  
Peter G. D. Ertman - Chief, Branch of Resource Program Operations  
Veronica Driscoll - Administrative and Maintenance Supervisor  
William E. Vernon - Chief Area Ranger

#### Staff Participation

Steven M. Nelson - Lead Outdoor Recreation Planner  
Lynn C. Anderson - Outdoor Recreation Planner  
Lillian A. Olech - Wildlife Biologist  
Patrick H. Welch - Archeologist  
Sean E. Hagerty - Geologist  
Robert M. Zimmer - BLM Ranger  
Lynda G. Kastoll - Realty Specialist  
Cristina Singh - Information Receptionist  
Robert L. Ward - Maintenance Worker

### Other Federal and State Agencies Consulted

Kim Nicol - California Department of Fish and Game  
Rocky Thompson - California Department of Fish and Game  
Ray Bransfield - United States Fish and Wildlife Service  
Brian Klock - California Department of Parks and Recreation  
Lowell Landowski - California Department of Parks and Recreation



## Consultation and Coordination

sent to individual members of the public who are on the  
 Justice Department's notification mailing list. It will be the  
 following elected officials and government agencies who  
 received copies:

### STATE OFFICIALS

#### MAINE

Governor Alan Fiske  
 Governor's Office  
 Commissioner Jim Bates  
 Commissioner David Smith  
 Commissioner Bill Smith

#### MASSACHUSETTS

Governor William Weld  
 Governor's Office  
 Governor's Office  
 Governor's Office  
 Governor's Office  
 Governor's Office  
 Governor's Office  
 Governor's Office  
 Governor's Office  
 Governor's Office

#### NEW YORK

Special County Board of Supervisors

#### NEW YORK

#### NEW YORK

Department of Defense  
 U.S. Navy  
 Department of the Interior  
 Bureau of Land Management  
 California State Board of Prison Commissioners  
 Bureau of Reclamation  
 U.S. Fish and Wildlife Service  
 Department of Justice  
 Federal Bureau of Investigation  
 The Department of Education



## APPENDIX F - CONSULTATION AND COORDINATION

Approximately 500 copies of the Draft Imperial Sand Dunes RAMP and EA have been distributed for public review. Most have been sent to individual members of the public who are on the El Centro Resource Area's recreation mailing list. In addition the following elected officials and government agencies have received copies:

### ELECTED OFFICIALS

#### Federal

- Senator Alan Cranston
- Senator Pete Wilson
- Congressman Jim Bates
- Congressman Duncan Hunter
- Congressman Bill Lowery

#### State of California

- Senator Marian Bergeson
- Senator William Craven
- Senator Wadie Deddeh
- Senator Jim Ellis
- Assemblyman William Bradley
- Assemblyman Peter Chacon
- Assemblywoman Lucy Killea
- Assemblywoman Sunny Mojonnier
- Assemblyman Steve Peace
- Assemblyman Larry Stirling

#### Local

- Imperial County Board of Supervisors

### AGENCIES

#### Federal

- Department of Defense
  - U.S. Navy
- Department of the Interior
  - Bureau of Land Management
  - California Desert District Advisory Council
  - Bureau of Reclamation
  - U.S. Fish and Wildlife Service
- Department of Justice
  - Border Patrol
  - Drug Enforcement Administration

## State of California

California Highway Patrol  
Resources Agency

Department of Fish and Game

Department of Parks and Recreation

Off-Highway Motor Vehicle Recreation Commission

Department of Transportation (CalTrans)

## Imperial County

Parks and Recreation Department

Planning Commission

Public Works Department

Sheriff-Coroner

## ORGANIZATIONS

American Honda

American Motorcycle Association

Arizona Desert Racing Association

Audubon Society

California All-Terrain Vehicle Association

California Association of Four-Wheel Drive Clubs

California Native Plant Society

California Off-Road Vehicle Association

Coachella Valley Water District

Desert Wildlife Unlimited

Earth First

Gold Cross Ambulance

Imperial Irrigation District

Imperial Valley Sidewinders Four-Wheel Drive Club

Imperial Volunteer Dunes Patrol

Los Exploradores Search and Rescue

Nature Conservancy

Parker Four Wheelers

San Diego Four Wheelers

San Diego Off-Road Coalition

Sierra Club

Specialty Vehicle Institute of America

Tierra del Sol Four Wheel Drive Club

Wilderness Society

Yuma Rural Metro Ambulance

## APPENDIX C

### Bibliography



#### APPENDIX G - BIBLIOGRAPHY

- Bull, Charles. 1981. A Summarization of an Archaeological Sample of the Glamis/Dunes Area, Imperial County, California. Unpublished report prepared for BLM, El Centro, CA.
- Hardy, Alan R., and Fred G. Andrews. 1979. An Inventory of Selected Coleoptera from the Algodones Dunes. Unpublished report prepared for BLM, El Centro, CA.
- Ritter, Eric. 1975. Archaeology of the Proposed East Mesa Open Area in Imperial Valley. Unpublished report prepared for BLM, El Centro, CA.
- Rorabaugh, Jim and Jesus R. Garcia. 1983. An Evaluation of Wildlife Response to Windmill Wells at the Coachella Canal and Algodones Sand Dunes, Imperial County, California. Unpublished report, California Dept. of Fish and Game and U. S. Dept. of the Interior, Bureau of Reclamation.
- Schneider, Robert W. 1979. An Analysis of Recreation Use Levels in the Central Dunes. Unpublished report, BLM, El Centro, CA.
- Southern California Association of Governments. 1985. SCAG 82 Growth Forecast Policy. Modified Forecast: Population, Housing, Employment. Adopted February 1985.
- Stebbins, Robert C. 1966. A Field Guide to Western Reptiles and Amphibians. Boston: Houghton Mifflin Co.
- Turner, F.B., J.C. Rorabaugh, E.C. Nelson, and M.C. Jorgensen. 1980. A Survey of the Occurrence and Abundance of the Flat-Tailed Horned Lizard (*Phrynosoma mcallii*) in California. Unpublished report prepared for BLM, Riverside, CA.
- U.S. Department of Commerce, Bureau of the Census. 1985. Estimates of the Population of Arizona Counties and Metropolitan Areas: July 1, 1981, 1982, and 1983. Current Population Reports, Local Population Estimates, Series P-26, No. 83-3-C. U.S. Government Printing Office, Washington, DC.
- U.S. Department of the Interior, Bureau of Land Management. 1986. Draft Environmental Impact Statement, Proposed 1985 Amendments to the California Desert Conservation Area Plan. Unpublished report, BLM, Riverside, CA.

U.S. Department of the Interior, Bureau of Land Management.  
1981. East Mesa Proposed Geothermal Leasing Final  
Environmental Assessment Record. Unpublished Report, BLM,  
El Centro, CA.

U.S. Department of the Interior, Bureau of Land Management.  
1981. Final Environmental Assessment for the Glamis/Dunes  
Non-competitive and Competitive Leasing of Geothermal  
Resources in Imperial County, California. Unpublished  
report, BLM, Riverside, CA.

U.S. Department of the Interior, Bureau of Reclamation.  
1982. Environmental Assessment Record. Coachella Canal  
Mitigation Wildlife Windmill/Drinkers Algodones Dunes Area  
Sites ED-3, 4, 5, and 6. Unpublished report.

U.S. Department of the Interior, U.S. Fish and Wildlife  
Service. 1978. Federal Register, Vol. 43, No. 155,  
Thursday, August 10, 1978. "10 North American Beetles:  
Proposed Endangered Species or Threatened Species Status and  
Identification of Critical Habitat."

WESTEC Services. 1977. Survey of Sensitive Plants of the  
Algodones Dunes. Unpublished report prepared for BLM,  
Riverside, CA.

Form 1279-3 (June 1984)	
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